MILITARY AND SECURITY DEVELOPMENTS INVOLVING THE PEOPLE'S REPUBLIC OF CHINA 2020

ANNUAL REPORT TO CONGRESS

OFFICE OF THE SECRETARY OF DEFENSE

The estimated cost of this report or study for the Department of Defense is approximately $168,000 in Fiscal Years 2019 - 2020. This includes $14,000 in expenses and $154,000 in DoD labor.
Generated on 2020Aug21 RefID: 9-A3DFCD4

Military and Security Developments Involving the People's Republic of China 2020

Annual Report to Congress

A Report to Congress Pursuant to the National Defense Authorization Act for Fiscal Year 2000, as Amended

Section 1260, "Modifications to Annual Report on Military and Security Developments Involving the People's Republic of China," of the National Defense Authorization Act for Fiscal Year 2020, Public Law 116-92, which amends the National Defense Authorization Act for Fiscal Year 2000, Section 1202, Public Law 106-65, provides that the Secretary of Defense shall submit a report "in both classified and unclassified form, on military and security developments involving the People's Republic of China. The report shall address the current and probable future course of military-technological development of the People's Liberation Army and the tenets and probable development of Chinese security strategy and military strategy, and of the military organizations and operational concepts supporting such development over the next 20 years. The report shall also address United States-China engagement and cooperation on security matters during the period covered by the report, including through United States-China military-to-military contacts, and the United States strategy for such engagement and cooperation in the future."

PREFACE:

A 20 YEAR RETROSPECTIVE ON CHINA'S STRATEGY AND ARMED FORCES

For 20 years, the Department of Defense (DoD) has provided Congress with an annual report on military and security developments involving the People's Republic of China (PRC). These reports have assessed the contours of China's national strategy, its approach to security and military affairs, and potential changes in the PRC's armed forces over the next 20 years, among other matters. 2020 marks an important year for the People's Liberation Army (PLA) as it works to achieve important modernization milestones ahead of the Chinese Communist Party's (CCP) broader goal to transform China into a "moderately prosperous society" by the CCP's centenary in 2021. As the United States continues to respond to the growing strategic challenges posed by the PRC, 2020 offers a unique opportunity to assess both the continuity and changes that have taken place in the PRC's strategy and armed forces over the past two decades.

DoD's first annual report to Congress in 2000 assessed the PRC's armed forces at that time to be a sizable but mostly archaic military that was poorly suited to the CCP's long-term ambitions. The report recognized the CCP's objective was for the PRC to become a "strong, modernized, unified, and wealthy nation." Despite these great power aspirations, the PLA lacked the capabilities, organization, and readiness for modern warfare. Yet the CCP understood these deficiencies and set long-term goals to strengthen and transform its armed forces in a manner commensurate with its aspirations to strengthen and transform China.

DoD's 2000 report assessed that the PLA was slowly and unevenly adapting to the trends in modern warfare. The PLA's force structure and capabilities focused largely on waging large-scale land warfare along China's borders. The PLA's ground, air, and naval forces were sizable but mostly obsolete. Its conventional missiles were generally of short range and modest accuracy. The PLA's emergent cyber capabilities were rudimentary; its use of information technology was well behind the curve; and its nominal space capabilities were based on outdated technologies for the day. Further, China's defense industry struggled to produce high-quality systems. Even if the PRC could produce or acquire modern weapons, the PLA lacked the joint organizations and training needed to field them effectively. The report assessed that the PLA's organizational obstacles were severe enough that if left unaddressed they would "inhibit the PLA's maturation into a world-class military force."

Two decades later, the PLA's objective is to become a "world-class" military by the end of 2049—a goal first announced by General Secretary Xi Jinping in 2017. Although the CCP has not defined what a "world-class" military means, within the context of the PRC's national strategy it is likely that Beijing will seek to develop a military by mid-century that is equal to—or in some cases superior to—the U.S. military, or that of any other great power that the PRC views as a threat. As this year's report details, the PRC has marshalled the resources, technology, and political will over the past two decades to strengthen and modernize the PLA in nearly every respect. Indeed, as this report shows, China is already ahead of the United States in certain areas such as:

- Shipbuilding: The PRC has the largest navy in the world, with an overall battle force of approximately 350 ships and submarines including over 130 major surface combatants. In comparison, the U.S. Navy's battle force is approximately 293 ships as of early 2020.
- Land-based conventional ballistic and cruise missiles: The PRC has more than 1,250 ground-launched ballistic missiles (GLBMs) and ground-launched cruise missiles (GLCMs) with ranges between 500 and 5,500 kilometers. The United States currently fields one type of conventional GLBM with a range of 70 to 300 kilometers and no GLCMs.
- Integrated air defense systems: The PRC has one of the world's largest forces of advanced long-range surface-to-air systems—including Russian-built S-400s, S-300s, and domestically produced systems—that constitute part of its robust and redundant integrated air defense system architecture.

More striking than the PLA's staggering amounts of new military hardware are the recent sweeping efforts taken by CCP leaders that include completely restructuring the PLA into a force better suited for joint operations, improving the PLA's overall combat readiness, encouraging the PLA to embrace new operational concepts, and expanding the PRC's overseas military footprint.

Despite the PLA's progress over the past 20 years, major gaps and shortcomings remain. The PRC's leaders are aware of these problems, and their strategy envisions the PLA undergoing almost 30 more years of modernization and reform. Of course, the CCP does not intend for the PLA to be merely a showpiece of China's modernity or to keep it focused solely on regional threats. As this report shows, the CCP desires the PLA to become a practical instrument of its statecraft with an active role in advancing the PRC's foreign policy, particularly with respect to the PRC's increasingly global interests and its aims to revise aspects of the international order.

Given the continuity in the PRC's strategic objectives, the past 20 years offer a harbinger for the future course of the PRC's national strategy and military aspirations. Certainly, many factors will determine how this course unfolds. What is certain is that the CCP has a strategic end state that it is working towards, which if achieved and its accompanying military modernization left unaddressed, will have serious implications for U.S. national interests and the security of the international rules-based order.

Report scope: This report covers security and military developments involving the PRC until the end of 2019. Developments in 2020, including the implications of the COVID-19 pandemic, will be covered in DoD's 2021 report.

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EXECUTIVE SUMMARY

UNDERSTANDING CHINA'S STRATEGY

China's National Strategy

- The People's Republic of China's (PRC's) strategy aims to achieve "the great rejuvenation of the Chinese nation" by 2049. China's strategy can be characterized as a determined pursuit of political and social modernity that includes far-ranging efforts to expand China's national power, perfect its governance systems, and revise the international order.
- The Chinese Communist Party (CCP) frames this strategy as an effort to realize long-held nationalist aspirations to "return" China to a position of strength, prosperity, and leadership on the world stage.
- The CCP's leadership has long viewed China as embroiled in a major international strategic competition with other states, including, and in particular, the United States.
- In 2019, China intensified its efforts to advance its overall development including steadying its economic growth, strengthening its armed forces, and taking a more active role in global affairs.

Foreign Policy

- The PRC's foreign policy seeks to revise aspects of the international order on the Party's terms and in accordance with ideas and principles it views as essential to forging an external environment conducive to China's national rejuvenation.
- In 2019, the PRC recognized that its armed forces should take a more active role in advancing its foreign policy, highlighting the increasingly global character that Beijing ascribes to its military power.

Economic Policy

- The CCP prioritizes economic development as the "central task" and the force that drives China's modernization across all areas, including its armed forces.
- China's economic development supports its military modernization not only by providing the means for larger defense budgets, but through deliberate Party-led initiatives such as OBOR and Made in China 2025, as well as the systemic benefits of China's growing national industrial and technological base.

Military-Civil Fusion (MCF) Development Strategy

- The PRC pursues its MCF Development Strategy to "fuse" its economic and social development strategies with its security strategies to build an integrated national strategic system and capabilities in support of China's national rejuvenation goals.

- MCF encompasses six interrelated efforts: (1) fusing the China's defense industrial base and its civilian technology and industrial base; (2) integrating and leveraging science and technology innovations across military and civilian sectors; (3) cultivating talent and blending military and civilian expertise and knowledge; (4) building military requirements into civilian infrastructure and leveraging civilian construction for military purposes; (5) leveraging civilian service and logistics capabilities for military purposes; and, (6) expanding and deepening China's national defense mobilization system to include all relevant aspects of its society and economy for use in competition and war.
- While MCF has broader purposes than acquiring foreign technology, in practice, MCF means there is not a clear line between the PRC's civilian and military economies, raising due diligence costs for U.S. and global entities that do not desire to contribute to the PRC's military modernization.

Defense Policy & Military Strategy

- The PRC has stated its defense policy aims to safeguard its sovereignty, security, and development interests. China's military strategy remains based on the concept of "active defense."
- In 2019, the PLA remained primarily oriented towards longstanding regional threats while emphasizing a greater global role for itself in accordance with China's defense policy and military strategy.
- China's leaders stress the imperative of meeting key military transformation markers set in 2020 and 2035. These milestones seek to align the PLA's transformation with China's overall national modernization so that by the end of 2049, China will field a "world-class" military.
- The CCP has not defined what it means by its ambition to have a "world-class" military. Within the context of China's national strategy, however, it is likely that China will aim to develop a military by mid-century that is equal to—or in some cases superior to—the U.S. military, or that of any other great power that China views as a threat to its sovereignty, security, and development interests.

MISSIONS, TASKS, & MODERNIZATION OF CHINA'S ARMED FORCES IN THE "NEW ERA"

- The PRC's strategy includes advancing a comprehensive military modernization program that aims to "basically" complete military modernization by 2035 and transform the PLA into a "world-class" military by the end of 2049.
- The PLA's evolving capabilities and concepts continue to strengthen the PRC's ability to counter an intervention by an adversary in the Indo-Pacific region and project power globally.

- In 2019, the PLA continued to make progress implementing major structural reforms, fielding modern indigenous systems, building readiness, and strengthening its competency to conduct joint operations.

- China has already achieved parity with—or even exceeded—the United States in several military modernization areas, including:

  - **Shipbuilding**: The PRC has the largest navy in the world, with an overall battle force of approximately 350 ships and submarines including over 130 major surface combatants. In comparison, the U.S. Navy's battle force is approximately 293 ships as of early 2020. China is the top ship-producing nation in the world by tonnage and is increasing its shipbuilding capacity and capability for all naval classes.

  - **Land-based conventional ballistic and cruise missiles**: The PRC has developed its conventional missile forces unrestrained by any international agreements. The PRC has more than 1,250 ground-launched ballistic missiles (GLBMs) and ground-launched cruise missiles (GLCMs) with ranges between 500 and 5,500 kilometers. The United States currently fields one type of conventional GLBM with a range of 70 to 300 kilometers and no GLCMs.

  - **Integrated air defense systems**: The PRC has one of the world's largest forces of advanced long-range surface-to-air systems—including Russian-built S-400s, S-300s, and domestically produced systems—that constitute part of its robust and redundant integrated air defense system (IADS) architecture.

Developments in the PLA's Modernization and Reform

- **The People's Liberation Army Army (PLAA)** is the largest standing ground force in the world. In 2019, the PLAA continued to transition into a modern, mobile, and lethal ground force by fielding upgraded combat systems and communications equipment and enhancing its ability to conduct and manage complex combined-arms and joint operations.

- **The People's Liberation Army Navy (PLAN)**—the largest navy in the world—is an increasingly modern and flexible force that has focused on replacing previous generations of platforms with limited capabilities in favor of larger, modern multi-role combatants. As of 2019, the PLAN is largely composed of modern multi-role platforms featuring advanced anti-ship, anti-air, and anti-submarine weapons and sensors.

  - **Naval Shipbuilding and Modernization:** The PLAN remains engaged in a robust shipbuilding and modernization program that includes submarines, surface combatants, amphibious warfare ships, aircraft carriers, and auxiliary ships as well as developing and fielding advanced weapons, sensors, and command and control capabilities.

- **The People's Liberation Army Air Force (PLAAF)** and PLAN Aviation together constitute the largest aviation forces in the region and the third largest in the world, with over 2,500 total aircraft and approximately 2,000 combat aircraft. The PLAAF is rapidly catching up to Western air forces across a broad range of capabilities and competencies.

- **The People's Liberation Army Rocket Force (PLARF)** is responsible for the PRC's strategic land-based nuclear and conventional missile forces. The PLARF develops and fields a wide variety of conventional mobile ground-launched ballistic missiles and cruise missiles. The PRC is developing new intercontinental ballistic missiles (ICBMs) that will significantly improve its nuclear-capable missile forces. The number of warheads on the PRC's land-based ICBMs capable of threatening the United States is expected to grow to roughly 200 in the next five years.

  - The PRC is expanding its inventory of the multi-role DF-26, a mobile, ground-launched intermediate-range ballistic missile system capable of rapidly swapping conventional and nuclear warheads.
  - The PRC's robust ground-based conventional missile forces compliment the growing size and capabilities of its air- and sea-based precision strike capabilities.

- **The PLA Strategic Support Force (SSF)** is a theater command-level organization established to centralize the PLA's strategic space, cyber, electronic, and psychological warfare missions and capabilities. The SSF Network Systems Department is responsible for cyberwarfare, technical reconnaissance, electronic warfare, and psychological warfare. Its current major target is the United States.

  - **The PRC's Space Enterprise**. The PRC's space enterprise continues to mature rapidly. Beijing has devoted significant resources to growing all aspects of its space program, from military space applications to civil applications such as profit-generating launches, scientific endeavors, and space exploration.
  - The PLA has historically managed the PRC's space program. The SSF Space Systems Department is responsible for nearly all PLA space operations.
  - In 2019, the PRC described space as a "critical domain in international strategic competition" and stated the security of space provided strategic assurance to the country's national and social development.

- **Military Readiness**: In recent years, CCP leaders have directed the PLA to improve its combat readiness. This guidance is increasingly evident in the intensity of the PLA's training and the complexity and scale of its exercises.

Capabilities for Counter Intervention and Power Projection

- The PLA is developing capabilities to provide options for the PRC to dissuade, deter, or, if ordered, defeat third-party intervention during a large-scale, theater campaign such as a Taiwan contingency.
- The PLA's anti-access/area-denial (A2/AD) capabilities are currently the most robust within the First Island Chain, although the PRC aims to strengthen its capabilities to reach farther into the Pacific Ocean.
- The PRC also continues to increase its military capabilities to achieve regional and global security objectives beyond a Taiwan contingency.
- The PLA is developing the capabilities and operational concepts to conduct offensive operations within the Second Island Chain, in the Pacific and Indian Oceans, and in some cases, globally. In addition to strike, air and missile defense, anti-surface and anti-submarine capabilities improvements, China is focusing on information, cyber, and space and counterspace operations.

Nuclear Deterrence

- China's strategic ambitions, evolving view of the security landscape, and concerns over survivability are driving significant changes to the size, capabilities, and readiness of its nuclear forces.
- China's nuclear forces will significantly evolve over the next decade as it modernizes, diversifies, and increases the number of its land-, sea-, and air-based nuclear delivery platforms.
- Over the next decade, China's nuclear warhead stockpile—currently estimated to be in the low-200s—is projected to at least double in size as China expands and modernizes its nuclear forces.
- China is pursuing a "nuclear triad" with the development of a nuclear capable air-launched ballistic missile (ALBM) and improving its ground and sea-based nuclear capabilities.
- New developments in 2019 further suggest that China intends to increase the peacetime readiness of its nuclear forces by moving to a launch-on-warning (LOW) posture with an expanded silo-based force.

THE PLA'S GROWING GLOBAL PRESENCE

- CCP leaders believe that the PRC's global activities, including the PLA's growing global presence, are necessary to create a "favorable" international environment for China's national rejuvenation.
- The CCP has tasked the PLA to develop the capability to project power outside China's borders and immediate periphery to secure the PRC's growing overseas interests and advance its foreign policy goals.

China's Global Military Activities

- The PRC has increasingly recognized that its armed forces should take a more active role in advancing its foreign policy goals.
- As the PRC's overseas interests have grown over the past two decades, the Party's leaders have increasingly pushed the PLA to think about how it will operate beyond China's borders and its immediate periphery to advance and defend these interests.
- In 2019, the PLA continued to expand its participation in bilateral and multilateral military exercises, normalize its presence overseas, and build closer ties to foreign militaries.

PLA Overseas Basing and Access

- The PRC is seeking to establish a more robust overseas logistics and basing infrastructure to allow the PLA to project and sustain military power at greater distances.
- Beyond its current base in Djibouti, the PRC is very likely already considering and planning for additional overseas military logistics facilities to support naval, air, and ground forces. The PRC has likely considered locations for PLA military logistics facilities in Myanmar, Thailand, Singapore, Indonesia, Pakistan, Sri Lanka, United Arab Emirates, Kenya, Seychelles, Tanzania, Angola, and Tajikistan. The PRC and Cambodia have publicly denied having signed an agreement to provide the PLAN with access to Cambodia's Ream Naval Base.
- A global PLA military logistics network could interfere with U.S. military operations and provide flexibility to support offensive operations against the United States.

The PRC's Influence Operations

- The PRC conducts influence operations to achieve outcomes favorable to its strategic objectives by targeting cultural institutions, media organizations, business, academic, and policy communities in the United States, other countries, and international institutions.
- The CCP seeks to condition domestic, foreign, and multilateral political establishments and public opinion to accept Beijing's narratives.
- CCP leaders probably consider open democracies, including the United States, as more susceptible to influence operations than other types of governments.

RESOURCES AND TECHNOLOGY FOR FORCE MODERNIZATION

- The PRC's long-term goal is to create an entirely self-reliant defense-industrial sector—fused with a strong civilian industrial and technology sector—that can meet the PLA's needs for modern military capabilities.
- The PRC has mobilized vast resources in support of its defense modernization, including the implementation of its MCF Development Strategy, as well as espionage activities to acquire sensitive, dual-use, and military-grade equipment.
- In 2019, the PRC announced its annual military budget would increase by 6.2 percent, continuing more than 20 years of annual defense spending increases and sustaining its position as the second-largest military spender in the world. The PRC's published military budget omits several major categories of expenditures and its actual military-related spending is higher than what it states in its official budget.

Science and Technology Goals Supporting Military Modernization

- China seeks to become a leader in key technologies with military potential, such as AI, autonomous systems, advanced computing, quantum information sciences, biotechnology, and advanced materials and manufacturing.
- China has invested significant resources to fund research and subsidize companies involved in strategic S&T fields while pressing private firms, universities, and provincial governments to cooperate with the military in developing advanced technologies.
- China continues to undermine the integrity of the U.S. science and technology research enterprise through a variety of actions such as hidden diversions of research, resources, and intellectual property.

Foreign Technology Acquisition

- The PRC pursues many vectors to acquire foreign technologies, including both licit and illicit means. The PRC's efforts include a range of practices and methods to acquire sensitive and dual-use technologies and military-grade equipment to advance its military modernization goals.
- The PRC leverages foreign investments, commercial joint ventures, mergers and acquisitions, and state-sponsored industrial and technical espionage, and the manipulation of export controls for the illicit diversion of dual-use technologies to increase the level of technologies and expertise available to support military research, development, and acquisition.
- In 2019, the PRC's efforts included efforts to acquire dynamic random access memory, aviation, and anti-submarine warfare technologies.

U.S.-CHINA DEFENSE CONTACTS AND EXCHANGES IN 2019

- U.S. defense contacts and exchanges conducted in 2019 supported overall U.S. policy and strategy toward China, were focused on reducing risk and preventing misunderstanding in times of crisis, and were conducted in accordance with the statutory limitations of the National Defense Authorization Act for Fiscal Year 2000, as amended.

- Pursuit of a constructive results-oriented relationship with China is an important part of U.S. strategy in the Indo-Pacific region. The 2018 *National Defense Strategy* seeks areas of cooperation with China from positions of U.S. strength, with a long-term aim to set the military-to military relationship on a path of strategic transparency and non-aggression, and to encourage China to act in a manner consistent with the free and open international order.

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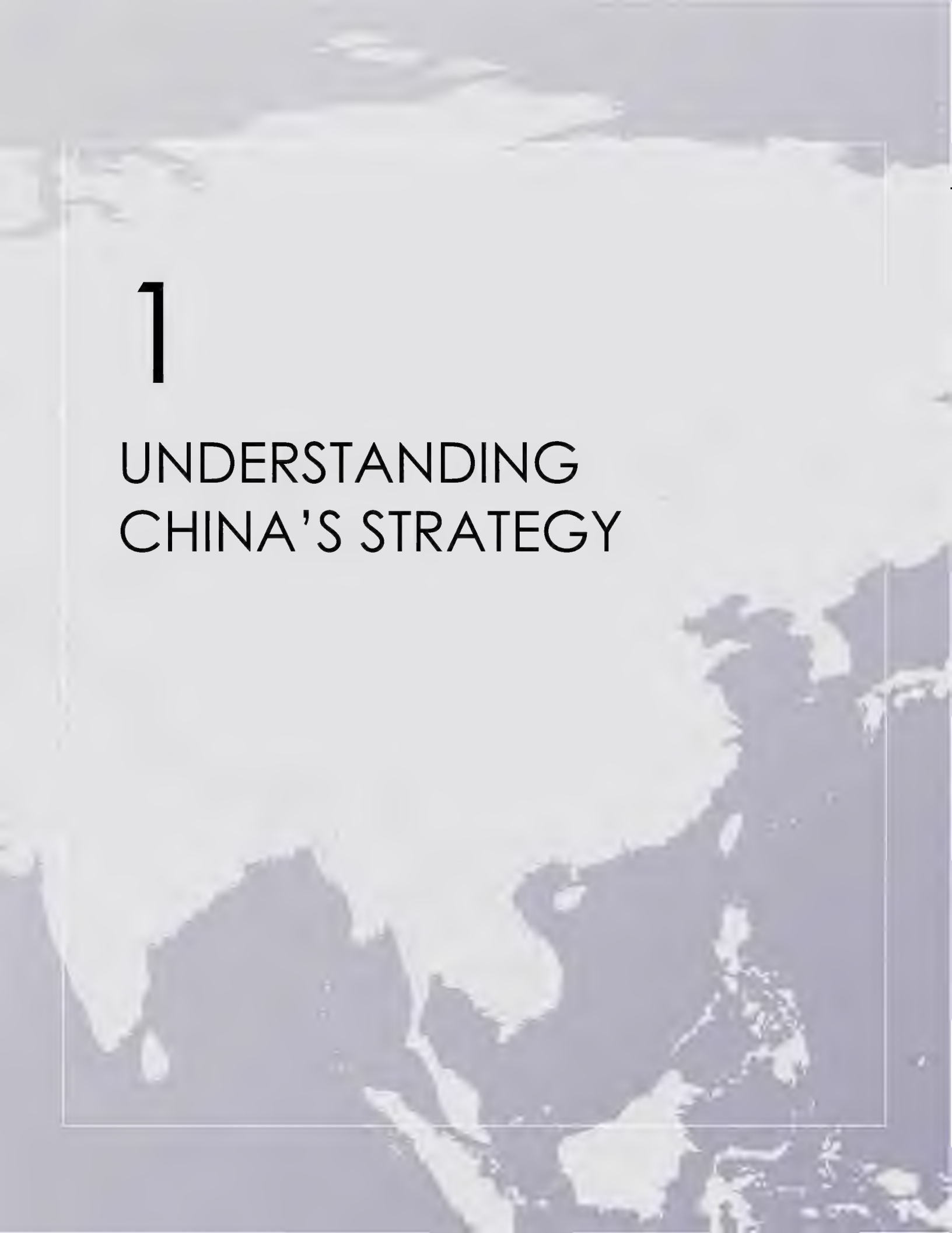
UNDERSTANDING CHINA'S STRATEGY



Understanding the tenets of China's national strategy is essential to understanding the future course of China's security and military strategy. This in turn offers insights on the current and future course of the People's Liberation Army's (PLA) reform and modernization in terms of its strength, technological advances, organization, and operational concepts.

CHINA'S NATIONAL STRATEGY

Key Takeaways

- China's strategy seeks to achieve "the great rejuvenation of the Chinese nation" by 2049. China's strategy can be characterized as a determined pursuit of political and social modernity that includes far-ranging efforts to expand China's national power, perfect its governance systems, and revise the international order.
- The Chinese Communist Party (CCP) frames this strategy as an effort to realize long-held nationalist aspirations to "return" China to a position of strength, prosperity, and leadership on the world stage.
- The CCP asserts its absolute leadership and governance systems are indispensable to China's national renewal into a "great modern socialist country."
- In 2019, China intensified its efforts to advance its overall development including steadying economic growth, strengthening its armed forces, and taking a more active role in global affairs.
- The CCP's leadership has long viewed China as embroiled in a major international strategic competition with other states, including, and in particular, the United States.

In 2019, the People's Republic of China (PRC) marked the 70th anniversary of its founding. On October 1, 2019, President Xi Jinping presided over the National Day ceremony in Beijing, standing atop the Gate of Heavenly Peace overlooking Tiananmen Square in front of a crowd that included the collected leaders of the CCP and foreign dignitaries while a massive assembly of forces and modern equipment from the PLA prepared to parade. In a brief speech, President Xi noted that it was 70 years to the day since Mao Zedong had stood in that very spot and proclaimed the founding of the PRC, ending what Xi described as the humiliations and misery that China had suffered in the previous century. President Xi then remarked, "The Chinese people managed to stand up on their feet and embark on a great journey of national rejuvenation...Today a socialist China is standing in the east of the world and there is no force that can shake the foundation of this great nation."

China's strategy seeks to realize "the great rejuvenation of the Chinese nation." This objective, which President Xi Jinping calls "the Chinese Dream," is a long-held national aspiration to "restore" China to a position of strength, prosperity, and leadership on the world stage. Throughout 2019, China continued to pursue this objective in line with the direction that the CCP Central Committee put forth in Xi's report to the 19th Party Congress in 2017, which set ambitious policy milestones and laid out initiatives for China to further its overall development, strengthen its armed forces, and take a more active role in global affairs.

China's leaders characterize their strategy to achieve political and social modernity as a grand national endeavor that is sweeping in scope and far-reaching in how it will transform China, and in turn, the world. China's strategy entails deliberate and determined efforts to amass, improve, and harness the internal and external elements of national power that will place China in a "leading position." China's leaders frequently refer to building China's "composite" national power in this context. China's strategy entails a long-term planning process to attain national rejuvenation that sets objectives, priorities, and milestones for the country's modernization across virtually every aspect of governance including economics, political affairs, the rule of law, public order, national security, diplomacy, and defense, as well as social affairs, education, science and technology, culture, the environment, and other matters. Although Party leaders have consistently pursued national rejuvenation as their goal, they have demonstrated a degree of strategic adaptability in execution to seize opportunities and manage threats to their strategy.

China pursues modernity and greater national power from the basis of defending and advancing its sovereignty, security, and development interests. Consequently, China's national ambitions and statecraft cannot be accurately characterized absent the CCP-dominated political system underpinned by the Party's theory of Socialism with Chinese Characteristics and the Party itself as the essential feature. The objective of this Party-led strategy is reflected in what the Party calls its "basic line," a single sentence in the CCP's Constitution that serves as the mission of the Party and the cornerstone for its policymaking. Last amended at the 19th Party Congress in 2017, it states:

> The basic line of the Communist Party of China in the primary stage of socialism is to lead all the people of China together in a self-reliant and pioneering effort, making economic development the central task, upholding the Four Cardinal Principles, and remaining committed to reform and opening up, so as to see China becomes a great modern socialist country that is prosperous, strong, democratic, culturally advanced, harmonious, and beautiful.

The basic line summarizes the Party's mission during what it considers China's current "primary" stage of socialist development.

External Ambitions. Among the external elements of China's national strategy are its ambitions to create a "favorable" international environment, according to Yang Jiechi, a member of the Politburo and a leading Party official on foreign policy. The Party seeks international conditions for the PRC that are conducive to its continued development and compatible with its aspirations for China's rejuvenation as a "great modern socialist country." As Party leaders view a divided China as a weak China, they argue that "full reunification"—unification with Taiwan on Beijing's terms and completing Hong Kong and Macau's integration by the end of 2049—is a fundamental condition of national rejuvenation. CCP leaders view it as imperative that a renewed China field a "world-class" military led by the Party that can "fight and win" and "resolutely safeguard" the country's sovereignty, security, and development interests. Similarly, the CCP seeks for all countries to adopt a new approach to interstate relations that reflect the Party's principles and its concept of a "community with a shared future for mankind."

The CCP's leaders claim that their strategy to achieve national rejuvenation requires the PRC to "lead the reform of the global governance system" as they view the current system as antithetical to their socialist system and an intolerable constraint on their strategic ends. The Party views aspects of the status quo order as incompatible with the sovereignty, security, and development interests of a strong and rejuvenated China. To the CCP, revisions are necessary to accommodate China's development and should reflect the CCP's foreign policy principles, which occupy "the commanding height of human morality," according to the PRC's Foreign Ministry.

Key Objectives and Milestones. For decades, China's leaders have framed the pursuit of modernity and power as advancing China along a specific trajectory with the PRC's centenary in 2049 as the target when China seeks to achieve national rejuvenation and become a "great modern socialist country." From the Party's perspective of China as a developing nation that must transition into a "fully developed and highly advanced" socialist society, this trajectory involves the CCP shepherding China through different stages of gradual but systematic modernization and development. The CCP demarcates the stages of China's strategy with milestones, each with objectives and priorities determined by the Party's leaders and planning processes.

Reflecting on China's progress at the 19th Party Congress, General Secretary Xi declared that China had assumed "…a leading position in terms of economic and technological strength, defense capabilities, and composite national strength" and therefore "crossed the threshold into a New Era." Xi's declaration that China had entered a "New Era" was not a change in strategic objectives, but an important signal of confidence that China's progress was sufficient to tackle the next set of challenges in its development. For China's strategy in the "New Era," Xi laid out a broad plan to achieve national rejuvenation with a timeline linked to two symbolically important centenary milestones reached in

2021 (the CCP's centenary) and 2049 (the PRC's centenary). To bridge the lengthy gap between the two anniversaries, Xi added interim objectives for 2035 and laid out a broad two-stage modernization plan to reach 2049. Further demonstrating the Party's confidence in China's progress, Xi's objectives for 2035 moved up certain mid-century targets set by the Party going back to 1987.

By the time the CCP marks its centenary in 2021, China aims to complete building a "moderately prosperous society in all respects." Beyond 2021, China will use the "moderately prosperous society" as the basis for Xi's "two-stage" plan to achieve national rejuvenation by the PRC's centenary in 2049. In the first stage from 2021 to 2035, the Party aims for China to "basically" meet its initial thresholds for becoming a "great modern socialist country." In this stage, China will likely continue to prioritize economic development as "the central task," but rather than rapid economic growth, it will seek to address its uneven economic development and inequalities that the CCP recognized as the new "principal contradiction" in Chinese society in the "New Era." By 2035, China will also seek to increase its economic and technological strength to become a "global leader in innovation" and to "basically" complete its military modernization. China will also seek to strengthen its international "soft power" significantly and improve its domestic rule of law and governance systems.

In the second stage from 2035 to 2049, the Party will seek for China to complete its development and attain national rejuvenation, The Party defines national rejuvenation as a state in which China is "prosperous, strong, democratic, culturally advanced, and harmonious." A renewed China will have realized an international status that Xi describes as being a "global leader in terms of composite national strength and international influence." China will have also attained—among the Party's many goals—its objectives to field a "world-class" military and assume a leading position within an international order revised in line with China's overall foreign policy goal to establish a "community with a shared future for mankind."

Historic Continuity. Understanding the origins of China's national rejuvenation is crucial to understanding how China will likely shape and pursue this strategic objective. CCP leaders have consistently framed their efforts as seeking to "restore" China to a preeminent place in the world after enduring what the Party characterizes as China's "century of humiliation" beginning in the 19th century as the Qing Dynasty began to disintegrate and lasting until the founding of the PRC in 1949. Although the Party's exact articulation of this goal as "the great rejuvenation of the Chinese nation" first emerged in the late 1980s, the CCP has portrayed itself as a champion of the cause of rebuilding China since the 1920s. General Secretary Xi Jinping frequently points to the CCP's steadfastness to the cause of national rejuvenation and describes it as the Party's "original aspiration."

The Party's objectives and narratives of national rejuvenation speak to the deep impressions left on China's political identity over an era defined by the disintegration of China's polity, repeated violations of China's sovereignty by foreign powers, and the prolonged absence of physical and economic security for many Chinese people. For a civilization with a history stretching back thousands of years—much of it spent as one of the most powerful and advanced civilizations in the world—nationalist appeals to restore China to greatness are deeply rooted. The threads of national renewal can be traced to China's nationalist revolutionary leaders in the late Qing Dynasty and emerged as a common nationalist theme in the fractured politics of China's Republican era. This resonance is crucial to why the CCP portrays China's rejuvenation as a nationalist project that the Party "shoulders" for the country.

China's Strategy and the CCP. The Party's leaders frame Socialism with Chinese Characteristics and the CCP as indispensable to China overcoming its historical circumstances and attaining national rejuvenation. As General Secretary Xi Jinping stated in a speech to the CCP Central Committee in 2013, "Which ideological system a country implements depends on one crucial issue: can this ideology resolve the historical problems facing the country?" From the Party's perspective, its leadership and systems are uniquely able to restore China's strength, prosperity, and prestige—underscored with the implicit warning that any deviation from socialism's path would result in "chaos" and China falling behind on its "historic mission." As Xi stated, "…only socialism can save China—and only Socialism with Chinese Characteristics can develop China."

CCP leaders flatly reject the notion that the Party has abandoned its socialist ideology in recent decades with the introduction of market features into China's economy or drifted towards a non-ideological form of governance. The Party asserts that China remains on the path of "socialist modernization" but it seeks to advance the country gradually as a lesson painfully learned from the Mao-era catastrophes that sought rapid progress. Accordingly, the Party claims that to perform its decisive role in guiding China into a "great modern socialist country," it must ensure that the country advances in line with "the Four Cardinal Principles." First stated by Deng Xiaoping and later written into the CCP Constitution, these principles direct the Party "to keep to the path of socialism, to uphold the people's democratic dictatorship, to uphold the leadership of the CCP, and to uphold Marxism-Leninism and Mao Zedong Thought." The Four Cardinal Principles are the basis for political and governance reforms pursued by the Party and the outer boundaries of its efforts to "reform" and "open up" the country. As General Secretary Xi Jinping told Party cadres in 2014, "promoting the modernization of the national governance system and capacity is definitely not Westernization or capitalism." In addition to cultivating ideological discipline and fighting corruption within the Party, Xi has sought to advance China's strategy by strengthening the Party's primacy across China's governance systems and making the Party more effective at managing China's political, economic and social problems. Xi's

emphasis on building the CCP's institutional capacity and promoting internal unity—which he views as the means for the Party to perform its strategic role—has become a prominent feature of his tenure.

In 2019, the Party continued its efforts to "perfect" its governance systems domestically and internationally. Notably, at the Fourth Plenum of the 19th Party Congress in October 2019, convened amid trade negotiations with the United States and widespread protests in Hong Kong, the plenum's agenda was heavily focused on improving the Party's governance systems across all aspects of Chinese society. The Fourth Plenum's focus on Party building and greater ideological coherence seemed to underscore the leaderships' confidence in the Party's systems and the need for the Party to manage emerging challenges to China's strategy.

External Threats and Opportunities. The CCP's leadership has long viewed China as embroiled in a major international strategic competition with other states. Throughout the post-Mao reform era and particularly after the end of the Cold War, the Party's leaders recognized their socialist system was—and would remain over the long-term—an underlying source of tension with the West. Given the Party's ambitions to "restore" China's place in the world and their assessment of China's relative weakness vis-à-vis rival states, CCP leaders recognized China's growing strength could flare tensions with others without careful management. Deng Xiaoping's reputed approach to this dilemma, as attributed by other Party leaders, was for China to, "hide our capacities and bide our time, preserve ourselves, and develop gradually." Although Party leaders have consistently pursued national rejuvenation as their goal, they have demonstrated a degree of strategic adaptability in execution to seize opportunities and manage threats to their strategy.

Over time, the CCP has characterized China's view of strategic competition in terms of a rivalry among powerful nation states as well as a clash of opposing political and governance systems in which ideology is a defining characteristic. Speaking to the importance the Party places on perfecting its systems and competing with different systems, General Secretary Xi remarked that, "System advantages are the greatest advantages of a country, and the competition of different systems is the most fundamental competition between countries." Party leaders have described their view of competition as entailing aspects of cooperation and conflict and that the CCP would need to be adaptable, flexible, and, above all, patient. The Party's leaders have also offered a view of competition based on relative levels of economic, technological, and military power. Speaking to the CCP Central Committee in 2013, General Secretary Xi Jinping remarked that the Party needed to "appreciate" that "developed Western nations" would continue to possess "real, long-term advantages" over China in the economic, technological, and military domains. Xi argued that China would need to "diligently prepare for a long period of cooperation and of conflict between these two social systems in each of these domains." Lastly, Xi alluded to the core elements of national rejuvenation as China's approach

to this competition. Xi stated, "most importantly, we must concentrate our efforts on bettering our own affairs, continually broadening our comprehensive national power, improving the lives of our people, building a socialism that is superior to capitalism, and laying the foundation for a future where we will win the initiative and have the dominant position."

Since just prior to the dissolution of the Soviet Union, the PRC's leaders have consistently characterized China's security environment as undergoing intense changes and have viewed the international order as shifting towards a multipolar system as a consequence of China's development. The Party views a shift towards a multipolar system as vital for China to advance its strategy. China's leaders have eagerly embraced narratives of the West's relative decline and the inevitability of China's rise as largely consistent with their strategy and purported evidence of China's progress. Despite China benefiting enormously from the general peace and prosperity of the current international system, the Party views core aspects of the system as incompatible with its strategy and has offered a vision for a revised order premised on its "community with a shared future for mankind." For example, Beijing views U.S. security alliances and partnerships, especially those in the Indo-Pacific region, as destabilizing and irreconcilable with the PRC's sovereignty, security, and development interests. Regionally, the PRC's 2019 defense white paper claims that "Asia-Pacific" countries are "increasingly aware that they are members" of China's "community with a shared future for mankind" and that managing disputes through dialogue is its "preferred policy option." In practice, the PRC often favors "dialogue" as a power play and a means of using political, economic, or military coercion rather than force.

Beijing has also expressed concerns over growing global instability and a mounting sense of insecurity towards the United States. The PRC's 2019 defense white paper criticized the United States as the "principal instigator" of global instability and driver of "international strategic competition." The PRC's leadership sees U.S. policy towards China as a critical factor affecting China's national strategy and increasingly views the United States as more willing to confront Beijing on matters where U.S. and PRC interests are inimical. CCP leaders' perceptions of intensifying strategic competition driven by structural changes in the international system and an increasingly confrontational United States is consistent with the Party's long-held opinion—based on its view of competition between systems—that the United States seeks to prevent China's rejuvenation.

Despite the perceived threats and challenges to its interests, the PRC evaluated the strategic landscape in 2019 as sufficiently favorable to continue prioritizing its economic and political development in support of its strategy. This assessment underscores the contradictions in China's strategic approach. China desires to continue benefiting from the general peace and prosperity it has enjoyed for decades under the current international system in order to advance its overall development towards national

rejuvenation. Simultaneously, China's national ambitions and political and governance systems, coupled with growing means and opportunity, induce it to adopt more assertive and revisionist policies which threaten the peace and stability Beijing requires to meet its developmental goals.

As the Party's leaders seek to translate China's growing economic and military means into influence to advance their international aspirations, they must also carefully balance China's expanding interests with their priorities and resources. For example, the PRC's One Belt, One Road (OBOR) initiative expands China's overseas development and security interests. The CCP has signaled this will drive China towards expanding its overseas military footprint to protect those interests, which the CCP recognizes may provoke pushback from other states. CCP leaders also seem to have recognized that OBOR and other initiatives have sparked concerns about China's intentions, leading Beijing to use less inflammatory and more tailored rhetoric without altering the initiatives' fundamental goals. Similar tensions can be found in China's efforts to advance President Xi's foreign policy goals such as building a "community with a shared future for mankind;" pressing revisions to the international order; and establishing diplomatic relationships in accordance with what China calls "strategic partnerships." China seeks to secure and advance its overseas interests without entirely compromising the relationships and stability crucial to its continued development—China's highest priority at this stage of its strategy. This tension underscores the increasingly complex decisions and risks China's leaders must weigh in implementing their strategy.

China's National Security Concept and Management

In recent years, China has articulated its view of national security as a broad concept that spans the confluence of internal and external threats to the PRC's interests. Party leaders have identified national security as encompassing traditional and non-traditional domestic and foreign threats; the intersection of external influences on internal stability; and economic, cultural, societal, and environmental threats. Additionally, Beijing has taken steps to define a concept for national security; improve the CCP's ability to develop and coordinate national security policy across party, military, and state organs; and raise public awareness of national security concerns. These efforts seek to address longstanding concerns of China's leadership that the country's legacy system of stove-piped party-state organizations was ill equipped to meet the growing national security challenges that China faces.

National Security Concept: The CCP's "Overall National Security Concept" provides the framework for China's national security system, the mission of the Central National Security Commission (CNSC), and the basis of China's national security strategy. First proposed by General Secretary Xi Jinping in 2014, China's state media describes the "Overall National Security Concept" as "a powerful ideological weapon and action guide…." According to the Party, the premise of the concept is that "People's security is the purpose of national security, political security is the foundation of national security, and the supremacy of national interests is the criterion of national security." China's leaders consider people's security, political security, and national interests as mutually reinforcing aspects of national security. Party outlets describe people's security as the purpose because national security fundamentally must serve the Chinese people and the Chinese nation. Similarly, the Party's view of political security as the foundation of national security is described in terms of the maintenance and "ruling status" of the Party and the system of Socialism with Chinese Characteristics. This reflects the Party's certainty that its leadership and systems are indispensable to China's national rejuvenation. Party leaders assess the supremacy of national interests as the criterion or standard by which the Party expects its stewardship of China's national security will be judged: its ability to "resolutely safeguard" China's sovereignty, security, and development interests. China's concept also views development and security as mutually supporting aspects of national security in which "… development is the foundation and purpose of security, and security is the condition and guarantee of development."

Central National Security Commission (CNSC): To improve coordination on national security matters, the CCP created the Central National Security Commission (CNSC) in 2013. At the first CNSC meeting in April 2014, Xi called on the CNSC to establish, "a centralized, unified, highly-effective and authoritative national security leading system." The CNSC advises the Politburo,

oversees the coordination of national security issues across the government, and manages crises, according to academics. Embracing the Party's expansive concept of national security, the CNSC's purview covers internal and external national security matters. The CNSC's mission, codification in law, sprawling definition of national security, and powerful leadership suggest the CNSC may continue to grow as an important party-state organ by the end of Xi's second term in 2022.

Membership. China's top three leaders lead the CNSC: Xi who serves as the CNSC Chairman; Li Keqiang (Premier of the State Council); and probably Li Zhanshu (Chairman of the Standing Committee of the National People's Congress). According to reports, CNSC membership may include Politburo members, senior government leaders, and senior PLA leaders (including the two Vice Chairman of the CMC). The CNSC General Office is responsible for the commission's daily work and is run by senior CCP officials serving in dual-hatted roles in other positions. The current Director of the CNSC General Office is likely Ding Xuexiang, a longtime political aide to Xi according to media reports. Ding also serves as the Director of the General Office of the Central Committee and is a member of the Politburo. Since May 2018, Chen Wenqing has served as Deputy Director of the CNSC. Chen is also the Minister of State Security and a member of the Politburo.

National Security Strategy. By 2015, the CCP adopted China's first national security strategy outline following the CNSC's establishment. PRC media noted the strategy intends to unify efforts by various departments under the central leadership's guidance. Over the years, China's leaders and media have indicated various national security sub-strategies that cover a variety of issues including Political Security, Homeland Security, Military Security, Economic Security, Cultural Security, Societal Security, Technology Security, Network Security, Nuclear Safety, Ecological Security, Resource Security, and Biosecurity.

In an effort to raise public awareness of the Party's national security concepts and emphasize national security as a civic responsibility, the 2015 *National Security Law* designated April 15 of each year as National Security Education Day. Recent years have seen schools and universities in China mark the day through propaganda and education initiatives to raise public awareness of national security matters—notably foreign espionage. Indicating the reach and depth the Party desires its national security concepts to penetrate into the party-state, the 2015 *National Security Law* also made provincial, autonomous regions, and municipalities responsible for national security work within their administrative areas. This has led to the creation of national security committees in the Party's provincial-level organizations, each headed by the province's party chief. In recent years, provincial leaders have used National Security Education Day to highlight their public education efforts and the passage and implementation of local "national security" regulations such as the establishment of a rewards system for locals to encourage reporting of suspected espionage.

FOREIGN POLICY

Key Takeaways

- China's foreign policy seeks to build a "community with a shared future for mankind" that supports its strategy to realize "the great rejuvenation of the Chinese nation."
- China's revisionist approach to the international order derives from the objectives of its national strategy and the Party's political and governing systems.
- China's foreign policy promotes changes to the international system on Beijing's terms and according to ideas and principles it views as essential to its concept of a "community with a shared future for mankind."
- In 2019, the PRC recognized that its armed forces should take a more active role in advancing its foreign policy, highlighting the increasingly global character that Beijing ascribes to its military power.

In 2019, China's diplomatic activities continued to carve a more prominent role for Beijing in international affairs. China has embraced a new diplomatic framework that it terms "Major Power Diplomacy with Chinese Characteristics in the New Era," which is guided by the foreign policy direction determined by the CCP Central Committee and set forth in General Secretary Xi Jinping's report at the 19th Party Congress. This framework seeks to advance China's strategy of national rejuvenation by achieving the CCP's two centenary goals, improving the coordination of China's major domestic and international policies, reforming aspects of the international order, adhering to the CCP Central Committee's direction, and defending China's "core and major interests."

The CCP's theory of Socialism with Chinese Characteristics underpins the conduct of China's foreign affairs. Since President Xi Jinping assumed power at the 18th Party Congress in 2012, the CCP Central Committee has placed greater emphasis on China's foreign policy advancing "the cause of Socialism with Chinese Characteristics." Yang Jiechi, a top Party official for the PRC's foreign policy, has claimed that adherence to Socialism with Chinese Characteristics is the "root and soul for our foreign work" and contributes to China's "wisdom" and "programs to solve mankind's problems." Importantly, the CCP's theory shapes the particular contexts and caveats that China applies to its diplomatic concepts and principles. For instance, a tenet of China's approach is adhering to a "path of peaceful development based on mutual respect, cooperation and mutual benefit," —loaded terms that have distinct meanings to Beijing.

According to Party officials, the overall goal of the PRC's foreign policy is to build a "community with a shared future for mankind" that seeks to shift the international system towards an architecture based on the CCP's principles for how nations should interact. This goal is essential to how China's foreign policy supports its broader strategy to achieve national rejuvenation. From China's perspective, establishing this "community" is necessary to set the external security and economic conditions for China's national rejuvenation by "safeguarding world peace" and "promoting common development" according to the Party's principles. China recognizes it cannot achieve its goals in isolation and seeks "all countries" to adopt its diplomatic framework in order to "lead the way forward for mankind" and "open up a road to common development for China and the world." Lastly, PRC officials acknowledge that aspects of the international order are inconsistent with its objectives. China's diplomatic framework seeks to remedy this by promoting changes in a more "just and rational direction."

China's revisionist approach to the international order derives from the objectives of its national strategy and the Party's political and governing systems. The PRC does not frame its revisionist efforts as simply opportunistic challenges to the status quo or a significant deviation from the past. Rather, Beijing is acting upon its longstanding desire to redesign the architecture of the international order to support China's national rejuvenation, efforts that are married with growing resources and opportunities to do so. The PRC's foreign policy seeks to revise aspects of the international order on the Party's terms and in accordance with ideas and principles it views as essential to forging an external environment supportive of China's national rejuvenation. Yang Jiechi refers to global governance reforms as a "key issue of China's foreign work." China's foreign policy framework includes several efforts to promote and accelerate the transformation in the distribution of power, redefine longstanding principles of interstate relations, and reform global governance structures.

Within the context of "Major Power Diplomacy with Chinese Characteristics in the New Era," PRC officials have described how China differentiates its goals and relations according to the power relationships among four categories of actors: major powers, peripheral nations, developing nations, and international organizations. Among the major powers, China contends that a new framework for relations is necessary to construct a "stable and balanced development" between the powers—in essence a multipolar system. With peripheral nations, China seeks to strengthen these relationships to create a more favorable environment along its maritime and land borders in accordance with Beijing's "correct view of justice and interests." For developing countries, China emphasizes solidarity and cooperation as well as "actively" carrying out multilateral diplomatic work. This likely refers to the importance that China places on attaining support from developing countries within international

organizations such as the World Health Organization (WHO), the International Telecommunication Union (ITU), the Food and Agriculture Organization (FAO), and others.

Another tenet of "Major Power Diplomacy with Chinese Characteristics in the New Era" is Beijing's ambition to construct "new types" of bilateral and multilateral relationships among all states. China desires for its concepts of mutual respect, cooperation, and mutual benefit to provide the basis for these "new types" of relations. Yang Jiechi describes China's "new type" relationships as strategic partnerships that follow a new path of "common country-to-country interaction." Although distinct from alliance relationships, China's notion of strategic partnerships are indicative of a relationship that meets China's criteria and is worthy of a higher level of bilateral cooperation. To improve its diplomatic support further, China also seeks to create what it calls a "comprehensive global partnership network" of its strategic partners in order to form a global "circle of friends."

China also promotes reforms to the "global governance system" as part of its diplomatic framework in order to reflect the "profound evolution" of the international order. According to Yang Jiechi, "The global governance system is at an important stage of profound evolution, and global governance has increasingly become the frontier and key issue of China's foreign work." To "seize the opportunity" for reform, China actively participates in the construction of a new, "more balanced" global governance system based upon the Party's principles. For example, China promotes OBOR as an "important practical platform for the concept of the community with a shared future for mankind." OBOR also serves to strengthen China's strategic partnerships, enlarge its network of strategic partners, and advance reforms to the international order to support China's strategy.

In 2019, the PRC continued to expand its diplomatic footprint and increase its diplomatic activities in the pursuit of its foreign policy goals. Over the course of 2019, the PRC's formal diplomatic relations grew to 180 countries, according to Chinese state media, including several countries that bowed to the PRC's pressure and switched their official recognition from Taiwan. Moreover, Beijing contends that 100 countries have agreed to form a "strategic partnership" with China. In 2019, President Xi Jinping made seven foreign trips, visited 12 countries, and attended a number of important international conferences such as the G20 Summit. In June 2019 alone, President Xi traveled to Russia, Central Asia, North Korea, and Japan. President Xi also hosted a number of large-scale diplomatic events in China, including the second "Belt and Road" International Cooperation Summit Forum.

Throughout 2019, the PRC's leaders continued to push diplomatic efforts to strengthen China's economic connectivity across the Indo-Pacific region. China's efforts led to additional countries and international organizations agreeing to cooperate on OBOR. Similarly, the Asian Infrastructure Investment Bank, a multilateral development bank whose establishment President Xi spearheaded,

increased its membership to 100 countries. China made progress towards finalizing negotiations for the Regional Comprehensive Economic Partnership (RCEP), a significant trade agreement among 15 regional states. China will likely wield significant influence within the RCEP pact given China's economic weight and India's withdrawal from RCEP negotiations in late 2019.

In 2019, the PRC recognized that its armed forces should take a more active role in advancing its foreign policy, highlighting the increasingly global character that Beijing ascribes to its military power. The PRC's 2019 defense white paper notably described its armed forces as responding, "faithfully to the call for a community with a shared future for mankind." Moreover, the white paper described the "global significance" of China's national defense in the "New Era" and called on the PRC's armed forces to act "in the service" of China's foreign policy goals. The explicit alignment of China's defense policy and armed forces working on the behalf of China's foreign policy within the framework of "Major Power Diplomacy with Chinese Characteristics" marks an important distinction that China has typically avoided in the past outside of the context of Taiwan. This change is likely due to Beijing's perception that such an alignment is a strategic necessity in the "New Era" and its confidence in the PLA's expanding capacity to support the PRC's foreign policy.

Further highlighting the alignment of the PRC's defense and foreign policies, the 2019 defense white paper called for China's armed forces to, "actively participate in the reform of global security governance system." China has more prominently recognized the PLA's role in defending China's overseas interests, with the defense white paper noting that the PLA "promotes international security and military cooperation and refines relevant mechanisms for protecting China's overseas interests."

China's military diplomacy contributes to its foreign policy goals to develop strategic partnerships and revise aspects of the international system. The PLA seeks to build a "new model" of security partnerships based on the PRC's foreign policy principles, according to the 2019 defense white paper. China's "new configuration of foreign military relations" aims to deepen China's global partnership network through greater military cooperation. The PLA keeps close contact with the military leadership of neighboring countries through more than 40 reciprocal military visits at and above the service commander-level every year. China has set up defense and security consultations as well as working meeting mechanisms with 17 neighboring countries to keep exchange channels open. Similarly, China seeks to develop its military relationships in Europe and strengthen military exchanges with countries in Africa, Latin America, the Caribbean, and the South Pacific.

China's willingness to engage in military diplomacy with other countries can vary considerably based on its perception of a country's adherence to China's diplomatic framework. China has demonstrated a willingness to engage in higher levels of military cooperation with countries with which it has

established a strategic partnership in accordance with China's proprietary criteria. For example, China's "comprehensive strategic partnership of coordination" with Russia entails a relatively high degree of military cooperation. Sino-Russian military cooperation occurs in practical forms through exchanges of training, equipment, technology, high-level visits, and other coordination mechanisms. For other strategic partnership countries, China seeks to leverage those relationships to reinforce China's systemic preferences and maintain stability in Beijing's favor. For countries with whom China has not established strategic partnerships, such as the United States, China shapes its military cooperation along more minimalist principles of conflict avoidance that emphasize "non-conflict" and "mutual respect." From China's perspective, these curtailed relationships at least serve its foreign policy goal of ensuring stable relations with major powers.

In this regard, 2019 was a pivotal point for the PLA as it continued to intensify its support to China's foreign policy through active participation in the reform of the global security governance system, and to advance China's strategic partnerships.

China's Territorial Disputes in Context

The PRC's use of force in territorial disputes has varied widely since 1949. Some disputes led to war, as in border conflicts with India in 1962 and Vietnam in 1979. China's contested border with the Soviet Union during the 1960s raised the possibility of nuclear war. In recent cases involving land border disputes, China has sometimes been willing to compromise with and even offer concessions to its neighbors. Since 1998, China has settled 11 land-based territorial disputes with six of its neighbors. In recent years, China has employed a more coercive approach to deal with several disputes over maritime features and ownership of potentially rich offshore oil and gas deposits.

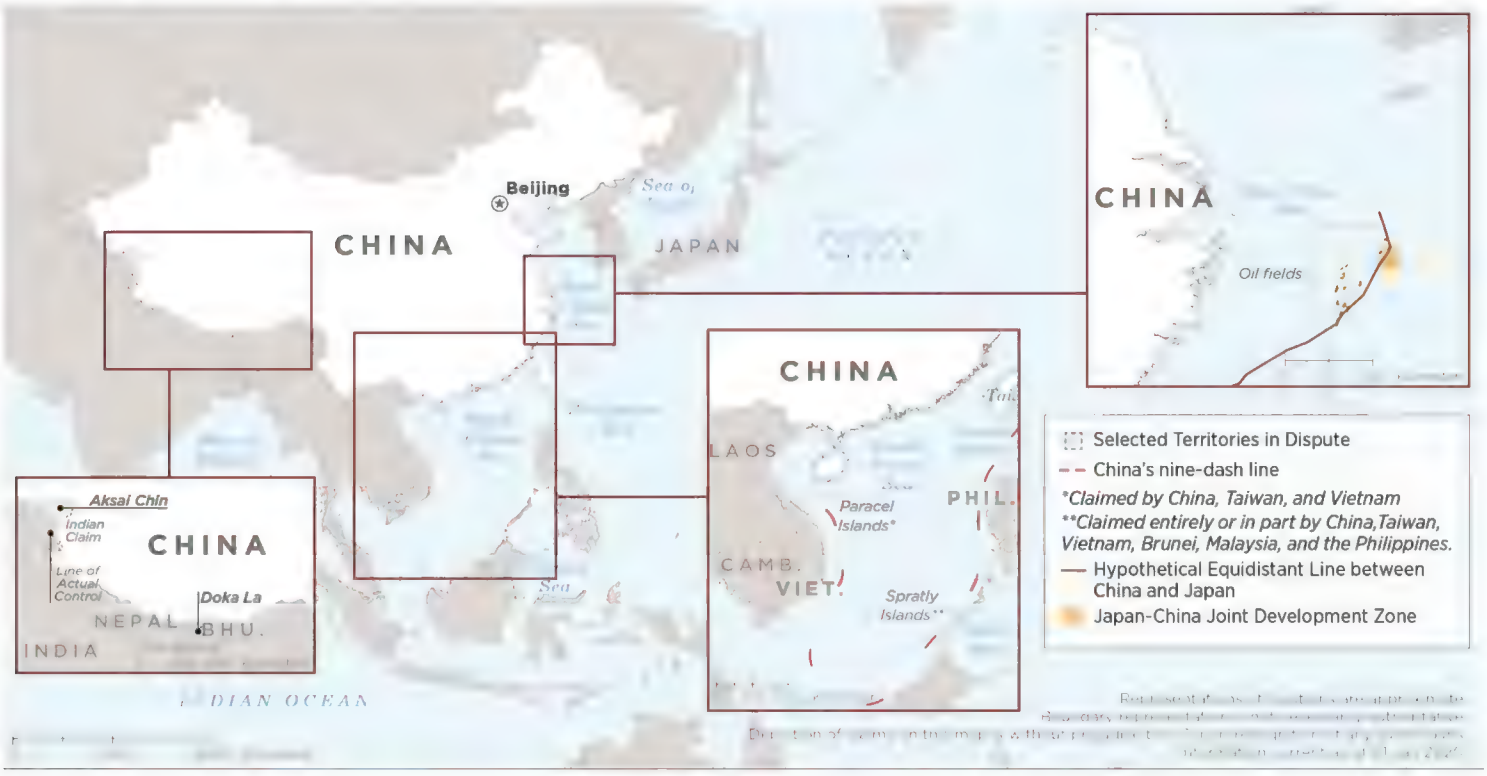
China and Japan have overlapping claims to both the continental shelves and the exclusive economic zones (EEZs) in the East China Sea. The East China Sea contains natural gas and oil, though hydrocarbon reserves are difficult to estimate. Japan maintains that an equidistant line from each country involved should separate the EEZs, while China claims an extended continental shelf beyond the equidistant line to the Okinawa Trench. Japan has called for resumed negotiations with China on the principled consensus reached in 2008 that both sides would respect an equidistant median line in the East China Sea for resource development while conducting joint development of oil and natural gas fields in a delineated area spanning the line near the northern end. Japan is concerned that China has conducted oil and gas drilling on the Chinese side of the median line of the East China Sea since 2013. China continues to contest Japan's administration of the nearby Senkaku Islands.

The South China Sea plays an important role in security considerations across East Asia because Northeast Asia relies heavily on the flow of oil and commerce through South China Sea shipping lanes, including more than 80 percent of the crude oil to Japan, South Korea, and Taiwan. China claims sovereignty over the Spratly and Paracel Island groups and other land features within its ambiguous self-proclaimed "nine-dash line" – claims disputed in whole or part by Brunei, the Philippines, Malaysia, and Vietnam. Taiwan, which occupies Itu Aba Island in the Spratly Islands, makes the same territorial assertions as China. In 2009, China protested extended continental shelf submissions in the South China Sea made by Malaysia and Vietnam in two note verbales to the United Nations (UN). In its notes, China stated that it has "indisputable sovereignty over the islands in the South China Sea and the adjacent waters, and enjoys sovereign rights and jurisdiction over the relevant waters as well as the seabed and subsoil thereof" and included its ambiguous "nine-dash line" map. In 2016, a tribunal established pursuant to the Law of the Sea Convention ruled that any PRC claim to "historic rights" in the South China Sea within the area depicted as the "nine-dash line" could not exceed its maritime rights or entitlements as specifically set out in the Law of the Sea Convention. China did not

participate in the arbitration, and PRC officials publicly voiced opposition to the ruling. By the terms of the Convention, the ruling is final and binding on China and the Philippines.

Tensions with India persist along the northeastern border near the Indian state of Arunachal Pradesh, which China asserts is part of Tibet and therefore part of China, and near the Aksai Chin region at the western end of the Tibetan Plateau. Chinese and Indian patrols regularly encounter one another along the disputed border, and both sides often accuse one another of border incursions. However, Chinese and Indian forces have regularly interacted since the 2017 Doklam standoff and generally kept disputes from escalating in 2019. After the 22nd round of India-China border talks held in September 2019, China and India agreed for the first time to coordinate patrolling at one disputed point along the Line of Actual Control in Arunachal Pradesh as a confidence-building measure to maintain peace at the border.

Selected Chinese Territorial Claims



ECONOMIC POLICY

Key Takeaways

- China's military modernization objectives are commensurate with and part of China's broader national development aspirations. China's economic, political, social, and security development efforts are mutually reinforcing and support China's strategy of national rejuvenation.
- The Party prioritizes economic development as the "central task" and the force that drives China's modernization across all areas, including its armed forces.
- China's economic development supports its military modernization not only by providing the means for larger defense budgets, but through deliberate Party-led initiatives such as OBOR and Made in China 2025, as well as the systemic benefits of China's growing national industrial and technological base.
- China's tools of economic statecraft include inducements such as infrastructure investments under OBOR; industrial and technology policies such as Made in China 2025 that seek foreign technology transfers in exchange for market access; protectionist policies and legal barriers for foreign firms to compete in China's domestic market; selective observance of trade commitments; and economic coercion against other states.

China's military modernization objectives are commensurate with and part of China's broader national development aspirations and work in coordination with China's economic policies and systems. China's leaders directly link the pace and scale of the PLA's modernization with the country's overall development. China's economic, political, social, and military development efforts are mutually reinforcing and support its strategy of national rejuvenation. The Party prioritizes China's economic development as the "central task" and frames its economic system as the means of advancing the nation's overall political and social modernity. In particular, China's economic statecraft focuses intensely on advancing what the Party calls the country's "productive forces" (e.g., industry, technology, infrastructure, and human capital) which it views as the means to achieve the country's political and social modernity—including building a "world-class" military. The party-state's relentless efforts to grow and mature China's national industrial and technological base has significant implications for China's military modernization, as well as for China's global economic partners.

Rather than a repudiation of the Party's fundamental ideals, CCP leaders have cast China's partial adoption of market features, part of its "reform and opening up" beginning in the late 1970s, and subsequent economic transformation, as evidence that their strategy to modernize China is succeeding.

Party leaders since Deng Xiaoping have consistently rationalized China's market-oriented economic reforms as a necessary regression from socialism needed to account properly for China's historical circumstances, which left it significantly underdeveloped. According to the Party, contemporary China remains at the beginning stage or the "primary stage of socialism" with a long process of socialist modernization ahead.

Basic Economic System. The Party conceives of China's economy as constituting the "basic economic system" in which public ownership is dominant and state, collective, and private forms of ownership develop side by side. The basic economic system is comprised of China's public ownership economy and the multi-ownership economy.

Economic Development Goals. Despite headwinds in China's economic performance in recent years, China has generally continued to pursue the economic policy objectives determined by the CCP Central Committee and set forth in Xi's report to the 19th Party Congress in 2017. According to Xi's report, China's economic goals are: (1) furthering supply-side structural reform; (2) making China a country of innovators; (3) pursuing a rural vitalization strategy; (4) implementing the coordinated regional development strategy; (5) accelerating efforts to improve the socialist market economy; and, (6) making new ground in pursuing opening up on all fronts. The CCP sets more specific development goals in its Five-Year Plans (FYPs). The PRC is currently executing the 13th FYP and the CCP is formulating the 14th FYP that will cover 2021-2025. The priorities and goals in the FYPs not only apply to the government and the public ownership economy, but also serve as implicit guidance from the Party to the multi-ownership economy.

Economic Conditions. In 2019, China's efforts to stem domestic credit growth and U.S.-China trade tensions exacerbated a slowdown in China's economy. In March 2019, China lowered its annual real gross domestic product growth target for 2019 to between 6 and 6.5 percent, from the previous year's target of "about" 6.5 percent. In the first three quarters of 2019, China posted an official gross domestic product growth rate of 6.2 percent marking the slowest rate of growth in nearly 30 years. China's economic growth has slowed down due to decreases in state-led infrastructure investment and urbanization, as well as China's decision since 2016 to increase oversight on the financial sector and risky lending.

Economic Policies and Practices. The PRC's introduction of some features of a market economy within the "basic economic system" without a full transition to a market economy has resulted in laws, regulations, and policies that generally disadvantage foreign firms vis- à-vis their Chinese counterparts in terms of tradable goods, services sectors, market access, and foreign direct investment. Examples of China's unfair economic policies and trade practices include its support to domestic industries at

the expense of foreign counterparts, commercial joint venture requirements, technology transfer requirements, subsidies to lower the cost of inputs, sustaining excess capacity in multiple industries, sector-specific limits on foreign direct investment, discriminatory cybersecurity and data transfer rules, insufficient intellectual property rights enforcement, inadequate transparency, and lack of market access—particularly in the information and communications technology (ICT), agriculture and service sectors.

In March 2018, an investigation by the Office of the U.S. Trade Representative (USTR) under Section 301 of the Trade Act of 1974 determined that the acts, policies, and practices of the PRC government related to technology transfer, intellectual property, and innovation are unreasonable or discriminatory and burden or restrict U.S. commerce, resulting in harm to the U.S. economy of at least $50 billion per year. Additionally, the USTR's annual Special 301 Report, which identifies trading partners that do not adequately or effectively protect and enforce intellectual property rights and the findings of its Review of Notorious Markets for Counterfeiting and Piracy, has repeatedly identified China as a country that has serious intellectual property rights deficiencies. These reports, for example, have repeatedly identified China as the world's leading source of counterfeit and pirated goods. Since 2006, USTR has continually placed China on its Priority Watch List, placement on which indicates particular problems with respect to intellectual property protection, enforcement, or market access for U.S. persons relying on intellectual property.

The USTR's 2020 Special 301 Report states: "China's placement on the Priority Watch List reflects U.S. concerns with China's system of pressuring and coercing technology transfer, and the continued need for fundamental structural changes to strengthen intellectual property protection and enforcement, [to include] trade secret theft, obstacles to protecting trademarks, online piracy and counterfeiting, the high-volume manufacturing and export of counterfeit goods, and impediments to pharmaceutical innovation."

Market access remains challenging for foreign firms, as China's restriction of inbound investment results in persistent underperformance in other countries' services exports, particularly in the banking, insurance, Internet-related, professional, and retail services sectors. Apart from the Section 301 investigation, the United States has placed sanctions on specific Chinese firms for violating U.S. sanctions against other states, stealing U.S. intellectual property, having ties to the PLA in dual-use sectors, and providing surveillance technology to PRC authorities in Xinjiang. In 2019, the Chinese telecommunications firm Huawei came under greater scrutiny due to concerns of its close links with the PRC government and its evasion of sanctions on Iran.

A large portion of China's economic output results from government and policy-directed investments rather than market-based forces. China pursues state-directed investment overseas and encourages mergers and acquisitions. Along with heavy investments in infrastructure and commodities to support its strategic firms, increase economic engagement, and improve economic security, China is investing in technologies that will be foundational for future innovations with both commercial and military applications.

China obtains foreign technology through foreign direct investment, overseas acquisitions, legal technology imports, the establishment of foreign research and development (R&D) centers, joint ventures, research and academic partnerships, talent recruitment, and industrial and cyber espionage and theft.

Recent legal proceedings highlight numerous cases of China's efforts to obtain technology and knowledge through theft of trade secrets and economic espionage. In November 2019, a U.S. Federal grand jury indicted a PRC national who had worked as an imaging scientist for Monsanto and its subsidiary, The Climate Corporation, on charges related to economic espionage and stealing trade secrets for China. Federal officials stopped him from boarding a flight on a one-way trip to China in 2017 with a proprietary algorithm according to the U.S. Department of Justice. In December 2018, the U.S. Department of Justice indicted two PRC nationals associated with a hacking group operating in China, known as Advanced Persistent Threat 10 (APT10), for conspiracy to commit computer intrusions, conspiracy to commit wire fraud, and aggravated identity theft. They worked for a Chinese company in association with the PRC Ministry of State Security (MSS) to conduct computer intrusions, resulting in the theft of hundreds of gigabytes of sensitive data involving aviation, space and satellite technology, manufacturing technology, pharmaceutical technology, oil and gas exploration and production technology, communications technology, computer processor technology, and maritime technology. In August 2017, a U.S. cybersecurity firm identified a separate hacking group in China, referred to as APT41, which has been operating since 2012. APT41 targeted industries associated with the PRC's economic priorities. The hackers repeatedly targeted tech groups developing machine learning, autonomous vehicles, medical imaging, semiconductors, processors, and enterprise cloud computing software.

The PRC's recent economic policies have promoted innovation focused on strengthening domestic industry, while placing additional restrictions on foreign firms. Recognizing that some of its initiatives such as "Made in China 2025" and OBOR have sparked concerns about China's intentions, China's leaders have adopted less inflammatory rhetoric when promoting these initiatives without altering their fundamental strategic goals.

- *Made in China 2025*: First announced by the PRC in May 2015, the "Made in China 2025" plan seeks to increase China's domestic innovation by setting higher targets for domestic manufacturing in strategic industries such as robotics, power equipment, and next-generation information technology by 2020 and 2025. This plan seeks to strengthen China's domestic enterprises through awarding subsidies and other incentives while increasing pressure on foreign firms to transfer technology in order to have market access in China. "Made in China 2025" came under criticism from advanced countries for unfairly favoring China's domestic enterprises at the expense of foreign participants in China's markets. Increasingly aware and sensitive to these concerns, by June 2018, China began avoiding references to "Made in China 2025" in major policy papers. The PRC government ordered its media outlets to downplay use of the term in June 2018. Key events that PRC leaders use to set strategic directives have also avoided references to "Made in China," including the 2019 Central Economic Work Conference and the NPC. Despite the adjustments in its narrative, China has largely continued implementing the policies behind "Made in China 2025."

- *One Belt, One Road (OBOR)*: Launched by the PRC in 2013, OBOR seeks to foster closer economic integration with countries along China's periphery and beyond thereby shaping these countries' interests to align with the PRC's, while promoting regional stability and dulling criticism over the PRC's approach to issues it views as sensitive. OBOR also helps China's state-owned enterprises (SOEs) find productive uses for their excess capacity in the cement, steel and construction sectors, as well as creating investment opportunities for China's large reserve of savings. Countries participating in OBOR could develop economic dependence on Chinese capital, which the PRC could leverage to pursue its geopolitical interests. The growth of China's global economic footprint also makes its interests increasingly vulnerable to domestic political transitions in participating countries, international and regional turmoil, terrorism, piracy, and serious natural disasters and epidemics, which places new requirements on China to address these threats. Some OBOR projects could create potential military advantages for the PRC, such as PLA access to selected foreign ports to pre-position the necessary logistics support to sustain naval deployments in waters as distant as the Indian Ocean, Mediterranean Sea, and Atlantic Ocean to protect its growing interests. In 2019, Beijing hosted the Second Belt and Road Forum, during which the PRC sought to address growing international skepticism stemming from concerns over corruption, indebtedness, environmental sustainability, and lack of transparency surrounding OBOR projects.

- *Digital Silk Road*: The PRC's Digital Silk Road initiative, announced in 2015 as a digital subset of OBOR, seeks to build China-centric digital infrastructure, export industrial overcapacity, facilitate expansion of Chinese technology corporations, and access large repositories of data. The PRC

also hopes the Digital Silk Road will increase international e-commerce by reducing cross-border trade barriers and establishing regional logistics centers by promoting e-commerce through digital free trade zones. China is investing in digital infrastructure abroad, including next-generation cellular networks—such as fifth-generation (5G) networks—fiber optic cables, undersea cables, and data centers. The initiative also includes developing advanced technologies including satellite navigation systems, artificial intelligence (AI), and quantum computing for domestic use and export.

Legal Framework. The PRC in recent years has implemented new laws that seek to place further restrictions on foreign firms while creating or strengthening the legal framework for the Party's national security concepts and in some cases furthering its Military-Civil Fusion (MCF) Development Strategy (discussed in the next section):

- *National Security Law*: Adopted in July 2015, the law limits foreign access to the information and communications technology (ICT) market in China on national security grounds.
- *Counterterrorism Law*: Adopted in December 2015, among its provisions, the law requires telecommunications operators and Internet service providers to provide information, decryption, and other technical support to public and state security organizations "conducting prevention and investigation of terrorist activities."
- *Cyber Security Law*: The law, which went into effect in June 2017, promotes development of indigenous technologies and restricts sales of foreign ICT in China. The law also requires that foreign companies submit ICT for government-administered national security reviews, store data in China, and seek government approval before transferring data outside of China.
- *Intelligence Law*: Passed in June 2017, the law allows authorities to monitor and investigate foreign and domestic individuals and organizations to protect national security. Specifically, it allows authorities to use or seize vehicles, communication devices, and buildings to support intelligence collection efforts.
- *Cryptography Law*: Adopted in October 2019 and coming into effect in 2020, this law requires entities working on cryptography to have management systems in place to ensure sufficient security for their encryption. Although the law encourages development of commercial encryption technology, its use cannot harm national security or the public good. It provides for the State Cryptography Administration and its local agencies to have complete access to cryptography systems and the data protected by those systems.

In March 2019, the PRC's NPC passed a new Foreign Investment Law with the stated objective of improving the business environment for foreign investors and leveling the playing field between foreign businesses and Chinese private firms and SOEs. The law passed in just three months, which reflects an unusually fast turnaround in China where the same level of legislation usually takes years. PRC officials have indicated that swift passage of the law was to facilitate U.S.-China trade talks, and the law appears to respond to a number of issues raised by the U.S. Trade Representative's Section 301 report related to unfair Chinese trade practices related to intellectual property, technology transfer, and innovation. Despite the law's stated objective, its wording is vague and the most substantial provisions are not new.

Economic Coercion. The PRC employs economic coercion to advance its objectives during periods of political tensions with other countries. For example, in response to legislation in 2019 that would lead to a ban on Huawei operating in Germany, China's ambassador alluded to retaliation against German automobile sales in China. In 2017, China used economic and diplomatic pressure in an attempt to urge South Korea to reconsider its approval for the United States to deploy the Terminal High-Altitude Area Defense (THAAD) system within its territory. In 2016, after the visit of the Dalai Lama to Mongolia, the PRC suspended talks on a major assistance loan, worsening Mongolia's fiscal challenges and eventually driving it to seek a bailout from the International Monetary Fund. China also increased fees on imports of mining products from Mongolia and temporarily closed an important border crossing.

MILITARY-CIVIL FUSION DEVELOPMENT STRATEGY

Key Takeaways

- The PRC pursues its Military-Civil Fusion (MCF) Development Strategy to "fuse" its economic and social development strategies with its security strategies to build an integrated national strategic system and capabilities in support of China's national rejuvenation goals.
- Although China's MCF strategy includes objectives to develop and acquire advanced dual-use technology for military purposes and deepen reform of the national defense science and technology industries, its broader purpose is to strengthen all of China's instruments of national power by "fusing" aspects of its economic, military, and social governance.
- China's MCF development strategy encompasses six interrelated efforts: (1) fusing the China's defense industrial base and its civilian technology and industrial base; (2) integrating and leveraging science and technology innovations across military and civilian sectors; (3) cultivating talent and blending military and civilian expertise and knowledge; (4) building military requirements into civilian infrastructure and leveraging civilian construction for military purposes; (5) leveraging civilian service and logistics capabilities for military purposes; and, (6) expanding and deepening China's national defense mobilization system to include all relevant aspects of its society and economy for use in competition and war.
- Although MCF has broader purposes than acquiring foreign technology, in practice, MCF means there is not a clear line between the PRC's civilian and military economies, raising due diligence costs for U.S. and global entities that do not desire to contribute to the PRC's military modernization.

The PRC pursues its Military-Civil Fusion (MCF) Development Strategy as a nationwide endeavor that seeks to "fuse" its economic and social development strategies with its security strategies to build an integrated national strategic system and capabilities in support of China's national rejuvenation goals. The Party's leaders view MCF as a critical element of their strategy for the PRC to become a "great modern socialist country" which includes becoming a world leader in science and technology (S&T) and developing a "world-class" military. Although China's MCF strategy includes objectives to develop and acquire advanced dual-use technology for military purposes and deepen reform of the national defense S&T industries, its broader purpose is to strengthen all of China's instruments of national power by "fusing" aspects of its economic, military, and social governance.

China pursues MCF through six interrelated efforts. Each effort overlaps with the others and has both domestic and international components. The Party seeks to implement the MCF Development Strategy across every level of China's party-state from the highest national-level organs down to provinces and township. China refers to these six aspects as "systems," which may also be understood as mutually supporting lines of effort or components. The six systems in the MCF Development Strategy are:

The Advanced Defense Science, Technology, and Industrial System. This system focuses on fusing China's defense industrial base and its civilian technology and industrial base. This includes expanding the private sector's participation in China's defense industrial base and supply chains as well as improving the efficiency, capacity, and flexibility of defense and civilian industrial and manufacturing processes. This broader participation seeks to transfer mature technologies both ways across military and civilian sectors, with the goal to produce outsized benefits for both sectors. This also aims to increase the competitiveness within the PRC's defense industrial base in which one or two defense SOEs dominate an entire sector. This MCF system also seeks to advance China's self-reliance in manufacturing key industrial technologies, equipment, and materials to reduce its dependence on imports, including those with dual-uses. The PRC's MCF-influenced industrial and technology endeavors include *Made in China 2025* that sets targets for China to achieve greater self-sufficiency in key industrial areas such as aerospace, communications, and transportation.

The Military-Civil Coordinated Technology Innovation System. This MCF system seeks to maximize the full benefits and potential of the country's S&T development. Consistent with the CCP leadership's view that high technology and innovation are critical to strengthening China's composite national power, this system develops and integrates advanced technologies across civilian and military entities, projects and initiatives—with benefits flowing in both directions. This includes using cutting-edge civilian technology for military applications or to more broadly advance military S&T as well as using military advancements to push civilian economic development. Although related to the Advanced Defense Science, Technology, and Industrial System, this system largely focuses on fusing innovations and advance in basic and applied research. Specific efforts in this MCF system include strengthening and promoting civilian and military R&D in advanced dual-use technologies and cross-pollinating military and civilian basic research. Additional efforts include promoting the sharing of scientific resources, expanding the institutions involved in defense research, and fostering greater collaboration across defense and civilian research communities. This system also seeks to foster "new-type" research institutions with mixed funding sources and lean management structures that are more dynamic, efficient, and effective than the PRC's wholly state-owned research bodies. Examples of

MCF-influenced dual-use S&T endeavors include China's Innovation Driven Development Strategy and Artificial Intelligence National Project.

The Fundamental Domain Resource Sharing System. This system includes building military requirements into the construction of civilian infrastructure from the ground up as well as leveraging China's civilian construction and logistics capacities and capabilities for military purposes. This includes factoring military requirements and dual-use purposes into building civilian private and public transportation infrastructure such as airports, port facilities, railways, roads, and communications networks. This also extends to infrastructure projects in dual-use domains such as space and undersea as well as mobile communications networks and topographical and meteorological systems. Another element seeks to set common military and civilian standards to make infrastructure easier to use in emergencies and wartime. This aspect of MCF has arguably the greatest reach into the PRC's local governance systems as military requirements inform infrastructure construction at the province, county, and township levels. The influence of this aspect of MCF is visible in the PRC's major land reclamations and military construction activities in the South China Sea, which brought together numerous government entities, the PLA, law enforcement, construction companies, and commercial entities. It may also have important implications for the PRC's overseas infrastructure projects and investments under OBOR as the PRC seeks to establish a more robust overseas logistics and basing infrastructure to allow the PLA to project and sustain military power.

The Military Personnel (Talent) Cultivation System. This MCF system seeks to blend and cultivate military and civilian S&T expertise through education programs, personnel exchanges, and knowledge sharing. The purpose of this effort is to improve the utilization of experts able to participate in S&T projects irrespective of whether they are military or civilian (or even foreign) experts and allow expertise to flow more freely across sectors. This aspect of MCF also seeks to reform China's talent cultivation system, which encompasses hundreds of talent recruitment plans, in order to improve China's human capital, build a highly skilled workforce, and recruit foreign experts to provide access to know-how, expertise, and foreign technology. It takes into account all levels of education from the Party's nationwide "patriotic education" programs for children to the matriculation of post-doctorate researchers within China and at institutions abroad. Many of the PRC's named "talents" programs are likely influenced by MCF planning, as are reforms in its military academies, national universities, and research institutes.

The Socialized Support and Sustainment System for the PLA. This system entails two major efforts that seeks to shift the PLA away from its inefficient self-contained logistics and sustainment systems and towards modern streamlined logistics and support services. First, it seeks to harness civilian public sector and private sector resources to improve the PLA's basic services and support

functions—ranging from food, housing, and healthcare services. The concept is to gain efficiencies in costs and personnel by outsourcing non-military services previously performed by the PLA while also improving the quality of life for military personnel. Second, it seeks to further the construction of a modern military logistics system that is able to support and sustain the PLA in joint operations and for overseas operations. This system seeks to fuse the PLA Joint Logistic Support Force's (JLSF) efforts to integrate the military's joint logistics functions with the PRC's advanced civilian logistics, infrastructure, and delivery service companies and networks. These arrangements seek to provide the PLA with modern transportation and distribution, warehousing, information sharing, and other types of support in peacetime and wartime. This fusion also seeks to provide the PLA with a logistics system that is more efficient, higher capacity, higher quality, and global in reach.

The National Defense Mobilization System. This MCF system binds the other systems as it seeks to mobilize China's military, economic, and social resources to defend or advance China's sovereignty, security and development interests. The Party views China's growing strength as only useful to the extent that the party-state can mobilize it. China views mobilization as the ability to use precisely the instrument, capability, or resource needed, when needed, for the duration needed. Within the PLA, the reforms in 2015-16 elevated defense mobilization to a department called the National Defense Mobilization Department (NDMD), which reports directly to the Central Military Commission (CMC). The NDMD plays an important role in this system by organizing and overseeing the PLA's reserve forces, militia, and provincial military districts and below. This system also seeks to integrate the state emergency management system into the national defense mobilization system in order to achieve a coordinated military-civilian response during a crisis. Consistent with the Party's view of international competition, many MCF mobilization initiatives not only seek to reform how China mobilizes for war and responds to emergencies, but how the economy and society can be leveraged to support China's strategic needs for international competition.

Development and Significance. The Party has explored the concept of leveraging or integrating the combined contributions of the military and civilian sectors since the PRC's founding. The current MCF concept initially took root in the early 2000s as the Party sought methods to enhance China's overall development. This led Party leaders to call for improving "military-civilian integration" that echoed the collaboration between the defense and civilian sectors that China observed in the United States and other developed countries. Implementation of these efforts stalled due to a lack of centralized government control and the organizational barriers that exist across the party-state. Coinciding with the 11th Five Year Plan (FYP) (2006-2010), China began replacing "military-civilian integration" with "military-civilian fusion." In 2007, Party officials publicly noted the change from

"integration" to "fusion" was not merely cosmetic, but represented a "theoretical 'great leap' following a long period of trial and error."

Since that time, MCF's ambitions have grown in scope and scale as the Party has come to view it as a means to bridge China's economic and social development with its security development in support of the PRC's national strategy to renew China. As such, the Party has continued to elevate MCF's importance. In 2015, the CCP Central Committee elevated the MCF Development Strategy to a national-level strategy to serve as a "bridge" between the PRC's national development strategy and its national security strategy that seeks to build an "integrated national strategic system and capabilities," all of which support the PRC's goal of national rejuvenation.

Management and Implementation. The overall management and implementation of the MCF Development Strategy involves the most powerful organs in the party-state: the Politburo, the State Council (notably the National Development and Reform Commission), and the CMC. In addition to signifying its importance, the CCP Central Committee's elevation of the MCF Development Strategy to a national-level strategy also intended to overcome obstacles to implementation across the party-state.

This elevation also led to the establishment of the Central Commission for Military Civilian Fusion Development (CCMCFD) in 2017, chaired by General Secretary Xi Jinping, Premier Li Keqiang, several other members of the Politburo Standing Committee, two State Councilors, both CMC Vice Chairmen, 12 Ministry-level leaders, and others. The stated objective of the CCMCFD is to build China's "national strategic system and capabilities." This commission works to improve the "top-level design" of MCF and overcome impediments to implementation. The elevation of the MCF Development Strategy and the creation of the CCMCFD signals the importance that Party leaders place on MCF and the scope and scale of the strategy's ambitions.

MCF Linkages. Each MCF system entails linkages between dozens of organizations and government entities, including:

- *Ministry-level organizations from the State Council:* Examples include the National Development and Reform Commission, Ministry of Foreign Affairs, Ministry of Industry and Information Technology, Ministry of Education, and key state entities such as the State Administration of Science and Technology in National Defense and others.
- *Lead military organs subordinate to the Central Military Commission*: CMC Strategic Planning Office, Joint Political, Logistics, and Equipment Development Departments, as well as operational units and the regional military structure at the Military District and Sub-District levels; military universities

and academies such as National Defense University, Academy of Military Science, National University of Defense Technology, and service institutions.

- *State-sponsored educational institutions, research centers, and key laboratories*: prominent examples include the "Seven Sons of National Defense" (Harbin Institute of Technology, Nanjing University of Science and Technology, Northwestern Polytechnical Institute, Beijing Institute of Technology, Harbin Engineering University, Beihang University, Nanjing University of Aeronautics and Astronautics), as well as certain PLA-affiliated laboratories of Tsinghua University, Beijing University, and Shanghai Jiaotong University, North University of China, and others.
- *Defense industry*: the ten major defense SOEs still fill their traditional roles providing weapons and equipment to the military services. Many defense SOEs consist of dozens of subsidiaries, sub-contractors, and subordinate research institutes.
- *Other SOEs and quasi-private companies*: high profile examples include PRC high-tech corporations and important SOEs like China Ocean Shipping Company (COSCO), China National Offshore Oil Company, and major construction companies that have roles in OBOR projects as well as helping the PRC build out occupied terrain features in the South China Sea.
- *Provincial governments*: In practice, many MCF efforts involve partnerships between provincial or city government entities and military district departments and PLA departments.

DEFENSE POLICY AND MILITARY STRATEGY

Key Takeaways

- The PRC has stated its defense policy aims to safeguard its sovereignty, security, and development interests. China's military strategy remains based on the concept of "active defense."
- China's leaders stress the imperative of strengthening the PLA into a "world-class" military by the end of 2049 as an essential element of its strategy to rejuvenate China into a "great modern socialist country."
- The CCP has not defined what it means by its ambition to have a "world-class" military by the end of 2049. Within the context of China's national strategy, however, it is likely that China will aim to develop a military by mid-century that is equal to—or in some cases superior to—the U.S. military, or that of any other great power that China views as a threat to its sovereignty, security, and development interests.
- In 2019, the PLA remained primarily oriented towards longstanding regional threats while emphasizing a greater global role for itself in accordance with China's defense policy and military strategy.
- Throughout 2019, the PLA continued to pursue ambitious modernization efforts, implement major organizational reforms, and improve its combat readiness.

The PRC has stated its defense policy aims to safeguard its national sovereignty, security, and development interests. China's leaders view these interests as foundational to their national strategy. In 2019, China's defense policy and military strategy primarily oriented the PLA towards longstanding regional threats. At the same time, China's leaders increasingly cast the armed forces as a practical instrument to defend Beijing's expanding global interests and to advance its foreign policy goals within the framework of "Major Power Diplomacy in a New Era." China's military strategy is based on "active defense," a concept that adopts the principles of strategic defense in combination with offensive action at the operational and tactical levels. To adapt the PRC's armed forces to long-term trends in global military affairs and meet the country's evolving national security needs, China's leaders stress the imperative of meeting key military transformation targets set in 2020 and 2035. These milestones seek to align the PLA's transformation with China's overall national modernization so that by the end of 2049, China will field a "world-class" military. Throughout 2019, the PLA continued to

pursue these ambitious modernization efforts, implement major organizational reforms, and improve its combat readiness.

Strategic Assessment. A key driver of the PRC's defense policy is how China's leaders perceive the relative threats and opportunities facing the country's comprehensive development. In 2019, the PRC published a new defense white paper, China's National Defense in the New Era, which outlined China's views of the international and "Asia-Pacific" security landscape and offered insights into its defense policy and military strategy. According to the paper, Beijing views the international environment as undergoing "profound changes unseen in a century." The PRC presents a relatively optimistic assessment that, "… the configuration of strategic power is becoming more balanced. The pursuit of peace, stability and development has become a universal aspiration of the international community with forces for peace predominating over elements of war."

Yet the PRC also concludes that "international strategic competition is on the rise" and expresses deep concerns at what it sees as growing sources of instability in the near-term. Offering no introspection on Beijing's own role in stirring geopolitical tensions through its economic practices, military activities and modernization, excessive maritime territorial claims, or efforts to revise aspects of global governance, the PRC describes the international system as being "…undermined by growing hegemonism, power politics, unilateralism and constant regional conflicts and wars." Similarly, the PRC contends that global military competition is intensifying and that "major countries" are adjusting their security and military strategies, reorganizing their militaries, and are developing new types of combat forces to "seize the strategic commanding heights in military competition."

Defense Policy. The PRC's stated defense policy is to "resolutely safeguard" its sovereignty, security, and development interests, according to its 2019 defense white paper—offering continuity with past statements by PRC senior leaders and other official documents. The 2019 defense white paper also identifies China's national defense aims that support these interests, likely offered in order of importance:

- to deter and resist aggression;
- to safeguard national political security, the people's security and social stability;
- to oppose and contain "Taiwan independence";
- to crack down on proponents of separatist movements such as "Tibet independence" and the creation of "East Turkistan";
- to safeguard national sovereignty, unity, territorial integrity and security;

- to safeguard China's maritime rights and interests;
- to safeguard China's security interests in outer space, electromagnetic space and cyberspace;
- to safeguard China's overseas interests; and,
- to support the sustainable development of the country.

Party-Army Relations

The PLA is the principal armed wing of the CCP and, as a party-army, does not directly serve the state. The CCP Central Military Commission (CMC), currently chaired by Xi Jinping, is the highest military decision-making body in China. As a party-army, the PLA is a political actor. As a constituency within the Party, it participates in the PRC's political and governance systems. As the ultimate guarantor of the Party's rule and political and governance systems, the PLA's missions include formal and informal domestic security missions in addition to its national defense missions. Although visible differences between the CCP and the PLA are extremely rare, in recent years outside observers have pointed out that Party leaders and official propaganda have increasingly emphasized the principles of the Party's absolute control over the PLA and the PLA's loyalty to the Party, despite the fact that the officer corps is composed almost entirely of Party members.

Military Strategic Guidelines. The Chairman of the CMC issues military strategic guidelines to the PLA that provide the foundation of China's military strategy. The military strategic guidelines set the general principles and concepts for the use of force in support of the CCP's strategic objectives, provide guidance on the threats and conditions the armed forces should be prepared to face, and set priorities for planning, modernization, force structure, and readiness. The CCP leadership issues new military strategic guidelines whenever they perceive it necessary to shift the PLA's priorities based on the Party's perceptions of China's security environment or changes in the character of warfare.

Recent trends suggest China may have recently reviewed and adjusted its military strategic guidelines. In early 2019, PRC state media indicated senior-level meetings were being held to "establish the military strategy of the 'New Era.'" The PRC's 2019 defense white paper states that the PLA is implementing guidelines for the "New Era" that, "…actively adapt to the new landscape of strategic competition, the new demands of national security, and new developments in modern warfare…" PRC official media in the latter half of 2019 echoed these themes and described the guidelines as

constituting a notable change. The PRC's defense white paper may reflect changes in the guidelines given its emphasis on the intensification of global military competition, the increase in the pace of technological change, and the military modernization themes introduced by General Secretary Xi at the 19th Party Congress.

These developments are notable because the CCP leadership has issued new military strategic guidelines only a few times since the end of the Cold War. In 1993, the CMC under Jiang Zemin directed the PLA to prepare to win "local wars" under "high-tech conditions" after observing U.S. military operations in the Gulf War. In 2004, the CMC under Hu Jintao ordered the military to focus on winning "local wars under informatized conditions." In 2014, the CMC under Chairman Xi Jinping issued new guidelines that placed greater focus on conflicts in the maritime domain and fighting "informatized local wars."

Military Strategy: Active Defense. China's military strategy is based on active defense, a concept that adopts the principles of strategic defense in combination with offensive action at the operational and tactical levels. Active defense is neither a purely defensive strategy nor limited to territorial defense. Active defense encompasses offensive and preemptive aspects. It can apply to the PRC acting externally to defend its interests. Active defense is rooted on the principle of avoiding initiating armed conflict, but responding forcefully if challenged. China's 2019 defense white paper reaffirmed active defense as the basis for its military strategy. Minister of National Defense Gen Wei Fenghe reiterated this principle of active defense in his speech at the Ninth Beijing Xiangshan Forum in 2019, stating that China "will not attack unless attacked but will surely counterattack if attacked."

First adopted by the CCP in the 1930s, active defense has served as the basis for the PRC's military strategy since its founding in 1949. Although China has adjusted and tailored the specifics of active defense over time based on changes in strategic circumstances, its general principles have remained consistent. Contemporary Chinese writings describe the tenets of active defense as:

- *Adhere to a position of self-defense and stay with striking back.* This describes the basic principle for the use of military force under active defense. The PRC's 2019 defense white paper describes this principle as, "We will not attack unless we are attacked, but we will surely counterattack if attacked." Active defense may entail defensive counterattacks in response to an attack or preemptively striking an adversary preparing to attack.

- *Combine strategic defense with operational and tactical offense.* This aspect offers two approaches to warfare influenced by Mao Zedong's notion of using defense and offensive in turns. First, active defense may involve offensive campaigns, operations, and tactical actions in support of the strategic

defense. These may occur rapidly and along "external lines." Second, it uses strategic defense to weaken the enemy and set the conditions to transition into strategic offense in order to secure victory.

- *Taking the operational initiative.* This aspect emphasizes the effective use of offensives at the operational and tactical levels, avoiding enemy strengths, and concentrating on building asymmetric advantages against enemy weaknesses to "change what is inferior into what is superior."

- *Strive for the best possibilities.* This calls for thorough peacetime military preparations and planning based on fighting the most challenging threat under the most complicated circumstances "in order to get the best results." This aspect stresses the importance of setting conditions in advance and suggests it is preferable to be prepared and not fight, than to fight unprepared.

- *The dialectical unity of restraining war and winning war.* This tenet seeks to resolve the dilemma that using too little force may protract a war instead of stopping it while the unconstrained use of force may worsen a war and make it harder to stop. Calling for the "effective restraint of warfare," this tenet seeks to avoid war first through sufficient military preparations and powerful conventional and strategic forces that act in concert with political and diplomatic efforts to "subdue the enemy's troops without fighting." If war is unavoidable, however, this aspect calls for restraining war by taking the "opening move" and "using war to stop war."

- *Soldiers and the people are the source of victory.* This integrates the concept of active defense with the concept of "people's war." People's war comprises subordinate military strategies, "guerrilla war" and "protracted war" that Mao saw as a means to harness the capacity of China's populace as a source of political legitimacy and mobilization to generate military power. Contemporary Chinese writings link people's war to national mobilization and participation in wartime as a whole-of-nation concept of warfare.

Military Missions and Tasks. The CMC directs the PLA to be ready and able to perform specific missions and tasks to support the Party's strategy and defend the PRC's sovereignty, security, and development interests. The PLA's missions and tasks in the "New Era" include: safeguarding China's territorial sovereignty and maritime rights and interests; maintaining combat readiness; conducting military training under real combat conditions; safeguarding China's nuclear weapons and its interests in the space and cyber domains; countering terrorism and maintaining stability; protecting the PRC's overseas interests; and participating in emergency response and disaster relief.

The PRC's Internal Security Forces

The PRC's internal security forces consist primarily of the Ministry of Public Security (MPS), the Ministry of State Security (MSS), the People's Armed Police (PAP), the PLA, and the militia. The Party relies on these forces to address challenges ranging from protests over political, social, environmental, or economic problems, to terrorism and natural disasters. For example, in 2019, the PRC's internal security forces in Xinjiang oversaw extensive detentions of Uyghurs at detention camps, mass surveillance, suppression of religious activities, and searches of personal property. In 2019, the PRC deployed the PAP in Shenzhen and probably in Hong Kong to bolster PLA Hong Kong Garrison elements positioned to respond to protests. The PRC's 2019 defense white paper claimed that since 2012 it has deployed 950,000 PLA and PAP soldiers and 1.41 million militia personnel for domestic emergency response and disaster relief.

Ministry of Public Security (MPS). The MPS leads the PRC's civilian national police, which serves as the first-line force for public order. The key mission of the MPS is domestic law enforcement and the "maintenance of social security and order" with duties including anti-rioting and anti-terrorism.

Ministry of State Security (MSS). The MSS is the PRC's main civilian intelligence and counterintelligence service. The missions of the MSS are to protect the PRC's national security; secure political and social stability; implement the State Security Law and related laws and regulations; protect state secrets; conduct counterintelligence; and investigate organizations or people inside China who carry out or direct, support, or aid other people perceived to harm national security.

People's Armed Police (PAP). The PAP is a paramilitary component of the PRC's armed forces. Its primary missions include internal security, maintaining public order, maritime security, and assisting the PLA in times of war. As part of a reorganization of China's security structures, in 2018, the CMC assumed direct control of the PAP. The same reform also subordinated the China Coast Guard (CCG) to the PAP.

People's Liberation Army (PLA). In addition to its national defense mission, the PLA has formal and informal roles in the PRC's internal security. As the principal armed wing of the CCP, the PLA is the ultimate guarantor of the CCP's survival and supports other internal security forces as necessary. For example, the PLA may provide transportation, logistics, and intelligence to assist local public security forces with internal security. The PLA's active and reserve forces are authorized under the 1997 National Defense Law to directly "assist in maintaining public order" when CCP leaders consider it necessary.

Militia. The militia is an armed reserve force of civilians available for mobilization. It is distinct from the PLA's reserve forces. Militia units organize around towns, villages, urban sub-districts, and enterprises and vary widely in composition and mission. The PRC's 1997 *National Defense Law* authorizes the militia to assist in maintaining public order. The People's Armed Forces Maritime Militia (PAFMM) is a component of the militia and its tasks include safeguarding maritime claims, which it often performs in conjunction with the PLAN and the CCG.

Modernization Objectives and Targets. Within the context of the Party's strategy, the modernization of the PRC's armed forces is not merely a policy preference or a momentary endeavor that may fade over time in importance. Rather, modernization of the armed forces is an indispensable element of the Party's national strategy to modernize the country. As the PRC's 2019 defense white paper states, "Building a fortified national defense and a strong military commensurate with the country's international standing and its security and development interests is *a strategic task for China's socialist modernization*" [emphasis added]. Throughout 2019, the PLA continued to pursue ambitious modernization objectives, implement major organizational reforms, and improve its combat readiness in line with the goals and timelines announced by General Secretary Xi Jinping at the 19th Party Congress in 2017. The PRC's goals for modernizing its armed forces in the "New Era," as stated in the 2019 defense white paper, are:

- **By 2020**: "To generally achieve mechanization…with significantly enhanced informationization and greatly improved strategic capabilities;"
- **By 2035**: "To comprehensively advance the modernization of military theory, organizational structure, military personnel, and weaponry and equipment in step with the modernization of the country and basically complete the modernization of national defense and the military …"; and,
- **In 2049**: "To fully transform the people's armed forces into world-class forces."

The PLA's modernization goals set by Chairman Xi Jinping and the CMC align with and provide support to the broader elements of China's national strategy, including the two centenary milestones in 2021 and 2049 and the interim waypoint in 2035. China wants to "generally" complete the PLA's mechanization and make "major progress" toward informatization by the end of 2020. This is ahead of the CCP's centenary in 2021, the point at which the Party seeks to complete building China into a "moderately prosperous society." Beyond 2021, the PLA's major modernization goals follow the Party's "two-step" national development approach to achieving national rejuvenation in 2049. In the first stage from 2021 to 2035, the PLA will seek to "basically complete" military modernization by 2035, at which point China will have "basically" met the Party's initial thresholds of a "great modern socialist country." In the second stage from 2035 to 2049, the PLA will aim to complete its transformation into a "world-class" military in support of the Party's goal to finish national modernization and fully realize its renewal as a "great modern socialist country."

Although China's leaders view building military strength as a strategic imperative, they also place important caveats on these objectives. For example, Chairman Xi's direction to the PLA to "basically complete" modernization by 2035 should also occur "in step with the modernization of the country."

These qualifications serve several purposes that highlight the interlocking nature of the Party's strategic planning. First, as the PRC's interests continue to expand as it develops, the Party expects the PLA to keep pace with the country's evolving interests and be ready and able to defend its progress. Second, linking the PLA's transformation to the country's transformation allows Party leaders to signal the scope and scale of the internal changes they expect the PLA to implement, particularly given its historic resistance to reforms that challenge its risk-adverse organizational culture or threaten vested bureaucratic interests. Finally, these qualifications provide flexibility to the Party's leaders to modulate military resources and defense objectives based on the conditions of the country's overall development. This offers the PRC's leaders flexibility to adapt to changing economic or international conditions and ensure military investments support—rather than compromise—the strategy.

Defense Ambitions. The CCP has not defined what it means by its ambition to have a "world-class" military by the end of 2049. Within the context of China's national strategy, however, it is likely that China will seek to develop a military by mid-century that is equal to—or in some cases superior to—the U.S. military, or that of any other great power that China views as a threat to its sovereignty, security, and development interests. Given the far-reaching ambitions the CCP has for a rejuvenated China, it is unlikely that the Party would aim for an end state in which China would remain in a position of military inferiority vis-à-vis the United States or any other potential rival. For China to aim lower or otherwise willingly accept a permanent condition of military inferiority would seem anathema to the fundamental purpose of becoming a "great modern socialist country." However, this does not mean that China will aim for the PLA to mirror the U.S. military in terms of capacity, capability, or readiness. China will likely develop its "world-class" military in a manner that best suits the needs of China's armed forces to defend and advance the country's interests and how the PLA—guided by the Party—adapts to the changing character of warfare. Additionally, China's military modernization ambitions do not necessarily shed light on how the PRC may intend to use force or posture its forces abroad in the future.

Readiness. As with other aspects of China's growing strength, the Party views the PLA's long-term development as useful to the extent that the party-state can wield it. Alongside modernizing the PLA's capabilities and organizational reform, China's leaders have identified enhancing the combat readiness of the armed forces as an important element in developing China's military strength. In recent years, Chairman Xi Jinping and senior military leaders have continued to emphasize the need to build the PLA's combat readiness so it can "fight and win." This emphasis has not only entailed the PLA conducting more training, but making its training more rigorous and realistic as well as addressing issues in the PLA's training and education systems relating conducting complex joint operations and adapting to other aspects of modern warfare.

Non-War Military Activities (NWMA)

PLA writings divide military operations into two categories: war and non-war. The PLA's concept of non-war military activities (NWMA) is an expansive and diverse set of military operations ranging from humanitarian assistance and disaster relief (HA/DR) to suppressing domestic unrest to maritime rights protection. PLA writings describe NWMA as serving a variety of political purposes, occurring at varying intensities and durations, and may include the threat of violence or the use of violence from low levels to levels approaching war. According to PLA writings, NWMA are an important "strategic means" for the military to serve the national political interest. Additionally, the PLA views NWMA as an effective way for it to support and safeguard China's development, as a means to expand the PRC's global interests, and an opportunity to gain valuable operational experience.

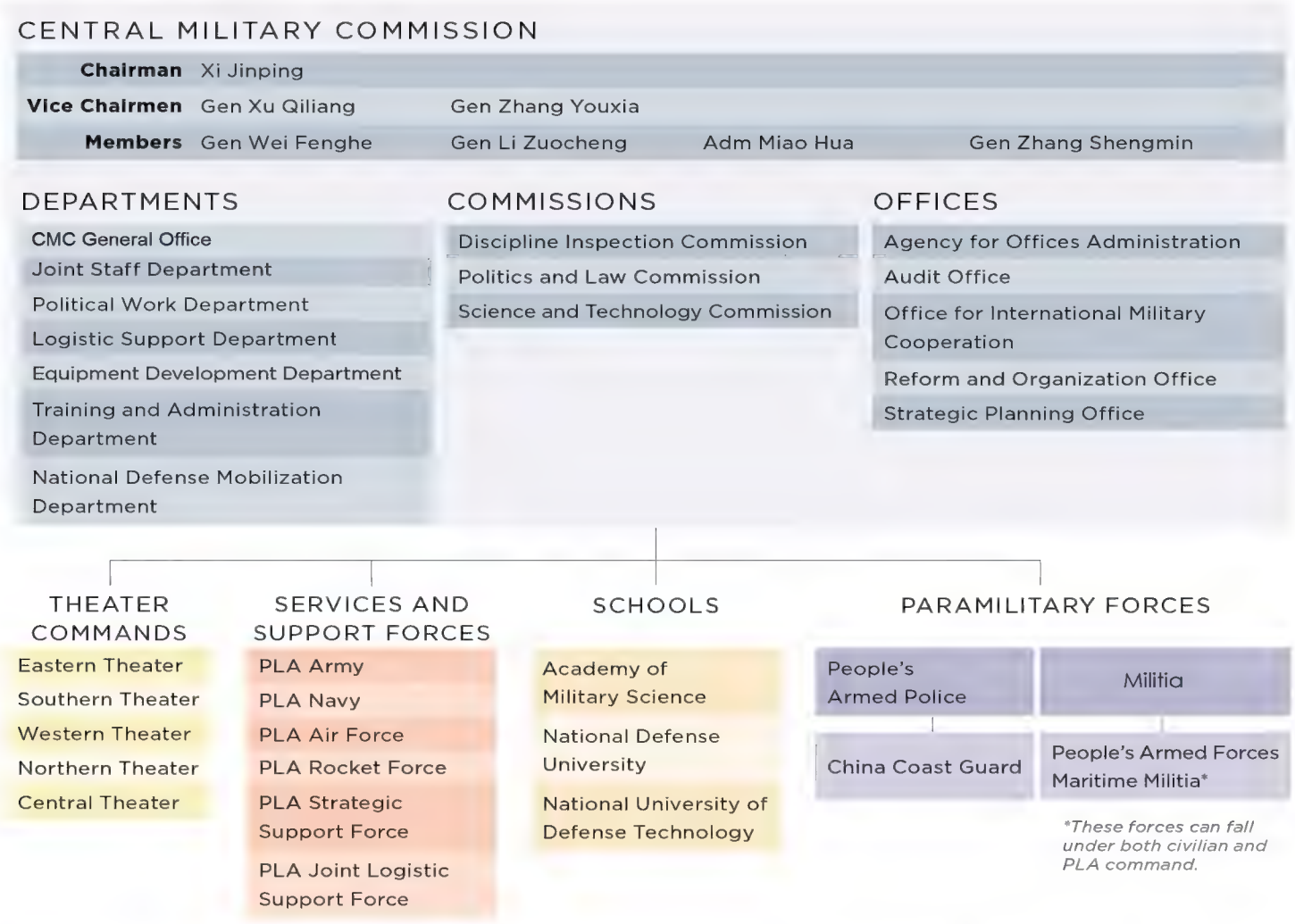
NWMA can be conducted internationally or domestically and encompass activities in multiple domains. NWMA can notably include operations in which the PLA uses coercive threats and/or violence below the level of armed conflict against states and other actors to safeguard the PRC's sovereignty and national interests. NWMA can also blend military and law enforcement activities including for maritime rights protection, border and coastal defense, air and sea control, deterrence operations, suppression of domestic unrest, and other forms of stability maintenance operations. NWMA also includes military diplomacy, HA/DR, counterterrorism, counterpiracy, counterdrug, peacekeeping, and noncombatant evacuation operations. In the past, PRC official writings have described aspects of NWMA as military operations other than war (MOOTW).

Along with the CCP leadership's focus on improving the PLA's combat readiness, in recent years PLA media outlets have noted shortcomings in the military's training and education systems that reportedly left some commanders—particularly at the operational level—inadequately prepared for modern warfare. In recent years, PLA media outlets have identified the need for the military to address the "Five Incapables" problem: that some commanders cannot (1) judge situations; (2) understand higher authorities' intentions; (3) make operational decisions; (4) deploy forces; and, (5) manage unexpected situations. Although PLA writings do not specify how widespread the "Five Incapables" are, PLA media outlets have consistently raised them. One outside expert has noted this may indicate the PLA lacks confidence in its proficiency to execute its own operational concepts. Additionally, senior Party and PLA leaders are keenly aware that the military has not experienced combat in decades nor fought with its current suite of capabilities and organizational structures. PLA leaders and state media frequently call on the force to remedy the "peacetime disease" that manifests in the form of lax training attitudes and practices that are viewed as hindering combat readiness.

The CMC and PLA continue to take determined steps to rectify these issues and strengthen the PLA's readiness. Starting in 2018, the PLA introduced a "rolling" training outline to ensure continuity in training and more dynamically adjust training to new requirements. In January 2019, the PLA updated its *Outline of Military Training and Evaluation* to emphasize realistic and joint training across all warfare domains. The 2019 outline reflects the PLA's push to streamline various training requirements established by national-level authorities, the theater commands, and services, as well as to enhance accountability for training standards and increase peacetime combat readiness. In February 2019, Chairman Xi issued a new regulation to the PLA that formally expanded the supervision of military training with inspectors and a new oversight system. According to PRC state media, the regulation sought to "rectify practices that are inconsistent with the requirements of actual combat" and correct "peacetime malpractices." Similarly, the PRC's 2019 defense white paper claimed the PLA (and PAP and militia) are placing a higher priority on combat readiness, enhancing training under realistic combat conditions, organizing contests and competitions to encourage training, and stepping up oversight of training to ensure adherence to training standards to "uproot peacetime ills." Chapter 2 discusses the PLA's 2019 training and exercises in detail.

Anticorruption Campaign. Anticorruption investigations in the PLA are a component of a Party-wide effort that General Secretary Xi strengthened and accelerated shortly after taking office. The stated goal of these campaigns is to safeguard the legitimacy of the CCP, root out corruption, improve governance, and centralize Xi's and the Party's authority. Military discipline inspectors led by the CMC Discipline Inspection Commission have targeted individual power networks and occupational specialties historically prone to corruption, such as officers connected to disgraced former CMC Vice Chairmen Xu Caihou and Guo Boxiong and, more recently, to General Fang Fenghui and General Zhang Yang. The Party demoted more than 70 PLA officers for their alleged involvement in Fang Fenghui's bribery scheme; Fang was sentenced to life in prison in February 2019.

China's Military Leadership



This chart does not depict the Ministry of National Defense (which is not in the chain of command), general offices, military districts, garrisons, sub-districts, and People's Armed Forces Departments (which command the militia)

China's Military Leadership

The military's highest decision-making body, the Central Military Commission (CMC), is technically a department of the CCP Central Committee. The CMC Chairman is a civilian, usually serving concurrently as the General Secretary of the CCP and President of China. Following the 19th Party Congress, the CMC consists of two vice chairs, the chiefs of the Joint Staff and Political Work Departments, the head of the Discipline Inspection Commission, and the Minister of National Defense.

Members of the CCP Central Military Commission

Chairman Xi Jinping's appointment as Party General Secretary and CMC Chairman in 2012 and his selection as President in the spring of 2013 represented the first simultaneous transfer of all three of China's top positions to an incoming leader in recent decades. Xi was reappointed to his Party positions at the 19th Party Congress and was reappointed president in spring 2018 at the NPC. The same meeting also granted approval to remove presidential term limits, potentially allowing Xi to remain president beyond his second term. In 2016, Xi was announced as the commander-in-chief of the CMC's Joint Operations Command Center (JOCC) and was named "core" leader of the CCP Central Committee. Prior to becoming CMC Chairman, Xi served as the CMC's only civilian Vice Chairman under Hu Jintao. Xi's father was an important military figure during China's communist revolution and was a Politburo member in the 1980s. The younger Xi served as an aide to a defense minister early in his career and had regular interactions with the PLA as a provincial Party official. In meetings with U.S. officials, Xi has emphasized improving military-to-military relations between China and the United States.

Vice Chairman General Xu Qiliang is the first career PLA Air Force (PLAAF) officer appointed China's top uniformed official. Xu is a public advocate for reform and guides the effort as a deputy secretary of the CMC's reform leading group. Xu previously served on the CMC as the PLAAF commander, where he oversaw rapid force modernization and expanded the air force's foreign engagement. He may have crossed paths with Xi Jinping early in his career, when both men served in Fujian Province. Xu was the first PLAAF officer to serve as deputy chief of the General Staff Department (GSD) since the Cultural Revolution period, and – at 54 years of age at the time – the youngest in PLA history. Xu is serving a third term as a CMC member.

Vice Chairman General Zhang Youxia is China's second-most senior officer and former head of the Equipment Development Department. Zhang gained rare experience as a combat commander during China's brief war with Vietnam in 1979. Zhang formerly commanded the Shenyang Military Region, which shared a border with North Korea and Russia. Zhang is one of China's military

"princelings." His father, a well-known military figure in China, served with Xi Jinping's father at the close of China's Civil War in 1949. Zhang is currently serving his second term on the CMC.

Minister of National Defense General Wei Fenghe was appointed at the NPC in March 2018. Wei is the PLA's third-most senior officer and manages its relationship with state bureaucracies and foreign militaries. Unlike the U.S. Secretary of Defense, he is not part of the chain of command and his primary policy influence is derived from membership in the CMC. Wei served in multiple missile bases across different military regions and held top posts in the headquarters of the former PLA Second Artillery Corps, the PLA Rocket Force's (PLARF's) predecessor, before being promoted in late 2010 to Deputy Chief of the General Staff – the first officer from the Second Artillery to do so. Wei was previously the PLARF commander. Wei is serving a second term as a CMC member.

Joint Staff Department Chief General Li Zuocheng oversees PLA operations, a narrowing of the wider responsibilities held by the former GSD prior to reforms initiated in 2015. Li is one of few remaining active duty PLA officers with combat experience and is recognized as a combat hero for his service in the PRC's border war with Vietnam. He was also the first PLA Army (PLAA) commander after the PLAA became a separate service in 2015. Li previously commanded the Chengdu Military Region, which was responsible for the sensitive area of Tibet.

Political Work Department Director Admiral Miao Hua oversees the PLA's political work, including propaganda, organization, and education. Miao is a former Army officer who switched services to the Navy in December 2014 when he became political commissar of the PLA Navy (PLAN). Miao may have ties to Xi from his time serving in the 31st Group Army in Fujian Province, when his career overlapped with Xi's. Miao participated as the PLAN political commissar during the Navy's OBOR cruise conducted in mid-2017.

Secretary of the Discipline Inspection Commission General Zhang Shengmin oversees the highest-level organization responsible for investigating military violations of Party discipline. Zhang is also a deputy secretary and third ranking member on the standing committee of the Party's Discipline Inspection Commission. Zhang's appointments indicate the Party's commitment to the anticorruption campaign in the military. Shortly after his appointment to the CMC, Zhang was promoted to the rank of general, the highest rank in the military.

2

MISSIONS, TASKS, AND MODERNIZATION OF CHINA'S ARMED FORCES IN THE "NEW ERA"

Key Takeaways

- With a force that totals approximately two million personnel in the regular forces, the PLA has sought to modernize its capabilities and improve its proficiencies across all warfare domains so that as a joint force it can conduct the range of land, air, and maritime operations as well as space, counterspace, electronic warfare (EW), and cyber operations.
- The PLA's evolving capabilities and concepts continue to strengthen the PRC's ability to counter an intervention by a third party in a conflict along China's periphery and project power globally.
- In 2019, the PLA continued to make progress implementing major structural reforms, fielding modern indigenous systems, building readiness, and strengthening its competency to conduct joint operations.
- China has already achieved parity with—or even exceeded—the United States in several military modernization areas, including shipbuilding, land-based conventional ballistic and cruise missiles, and integrated air defense systems.

DEVELOPMENTS IN THE PLA'S MODERNIZATION AND REFORM

The PRC's strategy of national rejuvenation entails strengthening and adapting its armed forces to the long-term trends in global military affairs and meeting the country's evolving national security needs. During the last two decades, the PRC has invested in and improved the PLA's capabilities to address a range of security objectives beyond its continued emphasis on Taiwan contingencies. The PLA's evolving capabilities and concepts continue to strengthen the PRC's ability to counter an intervention by a third party in a conflict along China's periphery, project power globally, and deter nuclear attack.

With a force that totals approximately two million personnel in the regular forces, the PLA has sought to modernize its capabilities and improve its proficiencies across all warfare domains so that as a joint force it can conduct the range of land, air, and maritime operations as well as space, counterspace, electronic warfare (EW), and cyber operations. China has already achieved parity with—or even exceeded—the United States in several military modernization areas, including shipbuilding, land-based conventional ballistic and cruise missiles, and integrated air defense systems. Recognizing that joint operations, information flows, and rapid decision-making are vital in modern warfare, the PRC continues to place a high priority on modernizing the PLA's capability to command complex joint operations in near and distant battlefields. The PRC is seeking to enhance the PLA's joint command and control systems, joint logistics systems, and command, control, communications, computers, intelligence, surveillance, and reconnaissance (C4ISR) systems. The PRC is also modernizing,

diversifying, and expanding its nuclear forces as well as deepening the PLA's interoperability and integration with the PRC's paramilitary and militia forces.

In recent years, the CCP's efforts to strengthen its armed forces have also included undertaking the most comprehensive restructuring of the PLA's command and control arrangements, forces structure, and administrative organs in its history. These reforms have sought to reinforce the CCP's control of the military, improve the PLA's ability to conduct joint operations, increase its combat effectiveness, and address longstanding issues such as corruption and the institutional primacy of the army over the other services.

Status of 2020 Milestones (Mechanization and Reform). Although the PLA continued to make progress towards its modernization and reform goals throughout 2019, the PLA might be unable to meet several of the milestones that it planned to achieve by 2020. Among the PLA's modernization goals set by the CCP leadership is to "generally achieve mechanization" by 2020. However, the PRC's 2019 defense white paper noted that the PLA had "yet to complete the task of mechanization," suggesting it was also unlikely that the PLA would achieve this goal by the end of 2020. Additionally, PLA officials have indicated that the third (and final) stage of PLA reforms would take place in 2021 or 2022. The PRC's original timetable from late 2015 for the completion of the PLA's reforms indicated that 2020 was the target for completion. References to 2021 or 2022 may imply the PLA is a year or two behind in completing its reforms. Both of these years are significant for the CCP. The Party aims for China to achieve its "moderately prosperous society" goal by the CCP's centenary in 2021. The CCP will also hold its 20th Party Congress in 2022.

PEOPLE'S LIBERATION ARMY ARMY (PLAA)

Key Takeaways

- The PLAA is the world's largest standing ground force, with approximately 915,000 active-duty personnel in combat units.
- In 2019, the PLAA continued to transition into a more modern, mobile, and lethal ground force through the fielding of upgraded combat systems and the integration of communications equipment and other technologies. The PLAA's modernization seeks to improve its ability to conduct joint operations in a high-intensity conflict and project power abroad.
- In 2019, the PLAA continued to create and mature formations at lower echelons that are more operationally flexible and better suited to conducting and managing complex combined-arms and joint operations.
- In 2019, the PLAA demonstrated a significant increase in training at both the service-level and joint-level and it continued to implement more realistic training methods.

The People's Liberation Army Army (PLAA) is the world's largest standing ground force, with approximately 915,000 active-duty personnel in combat units. The PLAA is the primary ground fighting force for the PLA. The PRC's 2019 defense white paper described the PLAA's tasks as transitioning from "regional defense" to trans-theater operations with an emphasis on improving its capabilities to conduct multi-domain, trans-theater, and sustained operations "so as to build a new type of strong and modernized land force." In 2019, the PLAA continued efforts to transition into a more modern, mobile, and lethal ground force through the fielding of upgraded combat systems and the integration of communications equipment and other technologies, to improve its ability to project power and conduct joint operations in a high-intensity conflict in line with the CCP's modernization goals. Throughout 2019, the PLAA also continued to implement the major PLA-wide structural reforms that began in late 2015 and improving its combat readiness.

Force Structure and Organization. In 2019, the PLAA continued to create and mature formations at lower echelons that are more operationally flexible and better suited to conducting and managing complex combined-arms and joint operations. The PLAA's forces are organized into five Theater Army Commands, the Xinjiang military command, and the Tibet military command. The PLAA has now standardized its 13 group armies (roughly a U.S. corps-level equivalent), which were reduced in number from 18 in 2017 as part of an effort to downsize and streamline the PLAA's force structure. Each group army now includes multiple combined-arms brigades. In total, these 78 combined-arms brigades serve as the PLAA's primary maneuver force. These brigades vary in size and composition.

The PLAA delineates its combined-arms brigades into three types: heavy (tracked armored vehicles), medium (wheeled armored vehicles), and light (high-mobility, mountain, air assault and motorized) and can contain up to 5,000 troops each. Each group army controls six additional brigades responsible for operational element functions: an artillery brigade, an air defense brigade, an army aviation (or air assault) brigade, a special operations forces (SOF) brigade, an engineer and chemical defense brigade, and a sustainment brigade. Although the PLAA has standardized its group armies, it does retain a number of nonstandard independent divisions and brigades that exist outside of the group armies. These units are typically located in areas the CCP considers sensitive including Xinjiang, Tibet, Hong Kong, and Beijing.

The PLAA continues to emphasize the group army-combined-arms brigade-battalion structure to reinforce combat capabilities at the tactical level and improve multi-domain operations. At the brigade and battalion levels, the PLAA reorganized and consolidated its staff structure to refine and synchronize planning and operational support efforts. Combined-arms brigades' subordinate combined-arms battalions have become the PLAA's basic tactical unit for joint operations. The PLAA has staffed and restructured its combined-arms battalions to enable them to conduct operations with greater independence from higher echelons. Combined-arms battalion commanders now have staff officers who assist in the development and implementation of plans and orders in addition to new reconnaissance assets and subordinate support units. Additionally, the variety of combat units at the brigade and battalion level provides the PLAA with greater flexibility to tailor force packages.

Capabilities and Modernization. The PLAA's modernization continues to emphasize vehicle and weapon upgrades in line with the PLA's overall modernization priorities and CMC guidance. The PRC's 2019 defense white paper, however, noted that the PLA "has yet to complete the task of mechanization," implying that completing mechanization by the end of 2020 was unlikely. Western observers have noted that the CCP's mechanization goal pertains primarily to the PLA's ground forces and point to the challenges of modernizing the PLAA given its sheer size. For example, equipment in PLAA infantry units varies and may include a mix of obsolete platforms from the 1960s up to some of the region's most modern and capable platforms. Similarly, PLAA armored units are comprised of a wide range of legacy tanks and modernized third-generation main battle tanks. Despite the PLA's modernization ambitions and its demonstrated ability to develop highly modern equipment for ground forces, the PLAA has faced challenges acquiring and fielding new equipment in sufficient quantities to retire its legacy equipment, although it continues to make progress in this regard.

In parades, state media, and other venues in 2019, the PLAA sought to highlight various types of new and upgraded equipment and vehicles, including small arms, all-terrain vehicles and modern camouflage patterns, to demonstrate the PLAA's commitment and progress towards modernization.

The PLAA also continues to bolster its armor capabilities in heavy combined-arms brigades with the initial fielding of the Type-15 light main battle tank, which can operate in mountainous and soft terrain environments with the firepower of its 105mm main gun. The PLAA's combined-arms brigades continued integrating new communications systems, information warfare platforms and low altitude unmanned aerial vehicles (UAVs) during 2019. The PLAA also fielded the Z-20 medium lift helicopter, which will enhance aviation and air assault brigades' ability to perform rapid air insertion operations, light infantry force projection, and expedited logistics.

Readiness. After two years of focusing on implementing significant force restructuring, the PLAA began shifting its focus toward combined-arms and joint training in 2019. The PLAA increased participation in the STRIDE 2019 series of combined-arms exercises, which involved multiple phases across the Zhurihe, Queshan, Sanjie, and Taonan training areas. More PLAA units participated in STRIDE 2019 exercises compared to the more limited STRIDE 2018. The PLAA continued high utilization of the Zhurihe Joint Training Base to simulate realistic force-on-force, high intensity conflict and to provide a venue to practice ground-to-air integration. Zhurihe Joint Training Base is comparable to the U.S. military's National Training Center at Fort Irwin, California, with a large amount of maneuver space, a dedicated opposing force, and an urban terrain training area.

The PLAA's participation in Russia's national-level military exercise TSENTR-19 in September 2019 indicated a continued prioritization of combined-arms training with regional partners as well as refining its counterterrorism capabilities. Aside from named exercises, the PLAA continued to leverage training simulation technology to include virtual reality scenarios and battalion level simulators to increase training repetitions and improve skills. PLAA units take a systematic approach to training and familiarization when integrating new tactical systems and military equipment into subordinate formations prior to testing them in training exercise scenarios.

Major Ground Units

PEOPLE'S LIBERATION ARMY NAVY (PLAN)

Key Takeaways

- The PRC has numerically the largest navy in the world with an overall battle force of approximately 350 ships and submarines, including more than 130 major surface combatants.
- As of 2019, the PLAN is largely composed of modern multi-role platforms featuring advanced anti-ship, anti-air, and anti-submarine weapons and sensors.
- The PRC commissioned its first domestically built aircraft carrier in late 2019. China expects its second domestically built aircraft carrier to enter service by 2023.
- In 2019, the PRC launched its first Yushen class amphibious assault ship (Type 075 LHA), its first class of large deck amphibious warship.
- In the near-term, the PLAN will have the capability to conduct long-range precision strikes against land targets from its submarine and surface combatants using land-attack cruise missiles, notably enhancing the PRC's global power projection capabilities.

The People's Liberation Army Navy (PLAN) is the largest navy in the world with a battle force of approximately 350 platforms, including major surface combatants, submarines, ocean-going amphibious ships, mine warfare ships, aircraft carriers, and fleet auxiliaries. The PRC's 2019 defense white paper described the PLAN as speeding up the transition of its tasks from "defense on the near seas" to "protection missions on the far seas." The PLAN is an increasingly modern and flexible force that has focused on replacing its previous generations of platforms with limited capabilities in favor of larger, modern multi-role combatants. As of 2019, the PLAN is largely composed of modern multi-role platforms featuring advanced anti-ship, anti-air, and anti-submarine weapons and sensors. This modernization aligns with the PRC's growing emphasis on the maritime domain and increasing demands for the PLAN to operate at greater distances from mainland China.

The PLAN organizes, mans, trains, and equips the PLA's naval and naval aviation forces, as well as the PLA Marine Corps (PLANMC), which is subordinate to the PLAN. In 2019, the PLAN continued to implement structural reforms that began in late 2015 and early 2016. Similar to the other services, the PLA-wide reforms removed the PLAN headquarters from conducting operations, which became the purview of the PLA's joint Theater Commands, and focused it on organizing, manning, training, and equipping naval forces. The PLAN's force structure consists of three fleets with subordinate submarine flotillas, surface ship flotillas, aviation brigades, and naval bases. The PLAN's North Sea

Fleet is subordinate to the Northern Theater Command, the East Sea Fleet is subordinate to the Eastern Theater Command, and the South Sea Fleet is subordinate to the Southern Theater Command.

Submarines. Modernizing the PLAN's submarine force remains a high priority for the PRC. The PLAN currently operates four nuclear-powered ballistic missile submarines (SSBNs) with two additional hulls fitting out, six nuclear-powered attack submarines (SSNs), and 50 diesel-powered attack submarines (SSs). The PLAN will likely maintain between 65 and 70 submarines through the 2020s, replacing older units with more capable units on a near one-to-one basis.

China continues to increase its inventory of conventional submarines capable of firing advanced anti-ship cruise missiles (ASCMs). Since the mid-1990s, the PLAN has purchased 12 Russian-built Kilo class SS units, eight of which are capable of launching ASCMs. During these years, China's shipyards have delivered 13 Song class SS units (Type 039) and 17 Yuan class diesel-electric air-independent-powered attack submarine (SSP) (Type 039A/B). The PRC is expected to produce a total of 25 or more Yuan class submarines by 2025.

Over the past 15 years, the PLAN has constructed twelve nuclear submarines – two Shang I class SSNs (Type 093), four Shang II class SSNs (Type 093A), and six Jin class SSBNs (Type 094), two of which were awaiting entry into service in late 2019. Equipped with the CSS-N-14 (JL-2) submarine-launched ballistic missile (SLBM), the PLAN's four operational Jin class SSBNs represent the PRC's first credible sea-based nuclear deterrent. Each Jin class SSBN can carry up to 12 JL-2 SLBMs. In 2019, these missiles were displayed at the PRC's 70th anniversary parade revealing at least a full complement of 12 JL-2s are complete and operational. China's next-generation Type 096 SSBN, which will likely begin construction in the early-2020s, will reportedly carry a new type of SLBM. The PLAN is expected to operate the Type 094 and Type 096 SSBNs concurrently and could have up to eight SSBNs by 2030. This would align with Chairman Xi Jinping's 2018 directive for the SSBN force to achieve "stronger growth."

By the mid-2020s, China will likely build the Type 093B guided-missile nuclear attack submarine. This new Shang class variant will enhance the PLAN's anti-surface warfare capability and could provide a clandestine land-attack option if equipped with land-attack cruise missiles (LACMs). The PLAN is also improving its anti-submarine warfare capabilities through the development of its surface combatants and special mission aircraft, but it continues to lack a robust deep-water anti-submarine warfare (ASW) capability.

Surface Combatants. The PLAN remains engaged in a robust shipbuilding program for surface combatants, producing new guided-missile cruisers (CGs), guided-missile destroyers (DDGs) and

corvettes (FFLs). These assets will significantly upgrade the PLAN's air defense, anti-ship, and anti-submarine capabilities and will be critical as the PLAN expands its operations beyond the range of the PLA's shore-based air defense systems. In December 2019, China launched the sixth Renhai class cruiser (Type 055) and was set to commission the first hull of the class in early 2020. The Renhai carry a large load out of weapons including ASCMs, surface-to-air missiles (SAMs), and anti-submarine weapons along with likely LACMs and anti-ship ballistic missiles (ASBMs) when those become operational. By the end of 2019, the PRC had launched 23 Luyang III DDGs—including 10 lengthened Luyang III MODs—with 13 of the 23 Luyang III DDGs operational with the PLAN. Both the standard Luyang III and the Luyang III MOD have a 64-cell multipurpose vertical launch system capable of launching cruise missiles, SAMs, and anti-submarine missiles. In 2019, the PLAN commissioned its 30th Jiangkai II class guided-missile frigate (FFG), likely completing the production run while it finalizes a follow-on class. The PLAN is augmenting its littoral warfare capabilities, especially for operations in the East and South China Seas, with high-rate production of the Jiangdao class FFLs (Type 056). By the end of 2019, more than 42 Jiangdao class FFLs had entered service out of an expected production run of at least 70 ships. The latest FFLs are anti-submarine warfare (ASW) variants with a towed-array sonar. The PRC has also built 60 Houbei class wave-piercing catamaran guided-missile patrol boats (Type 022) for operations in China's "near seas."

The PLAN continues to emphasize anti-surface warfare capabilities in its force development. The PLAN's frigates and FFLs, as well as modernized older combatants, carry variants of the YJ-83/YJ-83J ASCM (97 nm, 180 km), while newer surface combatants such as the Luyang II class DDGs are fitted with the YJ-62 (215 nm, 400 km). The Luyang III class DDGs and the Renhai class CGs will be fitted with a variant of China's newest ASCM, the YJ-18A (290 nm, 537 km). A few modernized destroyers have been retrofitted with the supersonic YJ-12A ASCM (250 nm, 285 km). Eight of the PLAN's 12 Kilo class SSs are equipped with the Russian-built SS-N-27 ASCM (120-nm, 222-km). The PRC's Song class SS, Yuan class SSP, and Shang class SSN will field the PLAN's newest domestic submarine-launched YJ-18 and its variants, which constitute an improvement over the SS-N-27 ASCM.

The PLAN recognizes that long-range ASCMs require a robust, over-the-horizon (OTH) targeting capability to realize their full potential. To fill this capability gap, China is investing in reconnaissance, surveillance, command, control, and communications systems at the strategic, operational, and tactical levels to provide high-fidelity targeting information to surface and subsurface launch platforms.

As the PLAN continues to transition into a global multi-mission force, the addition of land-attack capabilities to its modern array of anti-surface and anti-air capabilities is a logical next step. In the coming years, the PLAN will probably field LACMs on its newer cruisers and destroyers and developmental Type 093B nuclear attack submarines. The PLAN could also retrofit its older surface

combatants and submarines with land-attack capabilities as well. The addition of land-attack capabilities to the PLAN's surface combatants and submarines would provide the PLA with flexible long-range strike options. This would allow the PRC to hold land targets at risk beyond the Indo-Pacific region.

Amphibious Warfare Ships. China's investment in LHAs signal its intent to continue to develop its expeditionary warfare capabilities. In 2019, China launched its first Yushen class LHA (Type 075) and a second Yushen class LHA is under construction with additional hulls expected during the 2020s. The Yushen class are highly capable large-deck amphibious ships that will provide the PLAN with an all-aspect expeditionary capability. The Yushen class can carry a large number of landing craft, troops, armored vehicles, and helicopters. In addition, the PLAN has seven large Yuzhao class amphibious transport docks (LPDs) (Type 071), with an eighth ship expected to commission in 2020. The Yuzhao class LPDs and Yushen class LHAs provide the PLA with greater capacity, endurance, and more flexibility for long-range operations than the PLAN's older landing ships, which it has reduced in number over the last decade with obsolete units being decommissioned. The Yushen and Yuzhao can each carry several of the new Yuyi class air-cushion medium landing craft and a variety of helicopters, as well as tanks, armored vehicles and PLAN marines for long-distance deployments.

Aircraft Carriers. In December 2019, the PRC commissioned its first domestically built aircraft carrier, *Shandong*, which launched in 2017 and completed multiple sea trials during 2018-2019. The new carrier is a modified version of the *Liaoning* (Soviet Kuznetsov) design and likewise uses a ski-jump takeoff method for its aircraft. China continued work on its second domestically built aircraft carrier in 2019, which will be larger and fitted with a catapult launch system. This design will enable it to support additional fighter aircraft, fixed-wing early-warning aircraft, and more rapid flight operations and thus extend the reach and effectiveness of its carrier based strike aircraft. The PRC's second domestically built carrier is projected to be operational by 2024, with additional carriers to follow.

Auxiliary Ships. The PLAN continues to build a large number of seagoing auxiliary and support ships, including intelligence collection ships (AGIs), ocean surveillance ships (AGOSs), fleet replenishment oilers (AORs), hospital ships, submarine salvage and rescue ships, and various other specialized units. Additionally, China's first domestically built polar icebreaker, Xuelong 2, became operational in 2019. It is not operated by the PLAN, but rather by the Polar Research Institute of the State Oceanic Administration.

PLA Navy Marine Corps. As the PLAN's land combat arm, the PLA Navy Marine Corps (PLANMC) continues to complete its expansion and focus on expeditionary operations. The PLANMC previously

consisted of two brigades (approximately 10,000 personnel) and was limited in geography and mission to amphibious assault and defense of South China Sea outposts. In 2019, the PLANMC continued to mature an enlarged force structure of eight brigades intended to be scalable and mobile, modernize its capabilities for joint expeditionary operations—including operations beyond the First Island Chain—and become more proficient in conventional and irregular warfare. The PLANMC continues to work towards fully equipping its four newly established maneuver brigades (in addition to its two previously existing brigades), a SOF brigade, and an aviation (helicopter) brigade. Overall, the PLANMC's reform and modernization has proven slower than expected given the CMC's milestone for the PLA to "generally achieve mechanization" by the end of 2020 ahead of the CCP's centenary in 2021.

The PLANMC's roles and missions principally include defending PLA bases in mainland China, the South China Sea and abroad, conducting amphibious operations to seize and defend small reef and island outposts, and conducting non-war military activities (NWMA). Although the PLANMC has traditionally focused on its task to assault and defense of small islands in the South China Sea, more recently its focus has grown to include expeditionary operations beyond the First Island Chain. The PLANMC's roles under NWMA support the PRC's efforts to protect its overseas interests including resources, infrastructure, and citizens abroad.

The PLANMC maintains a presence at the PRC's first overseas military base in Djibouti that extends Beijing's military reach and strategic influence in Africa and the Middle East. The PLANMC's presence in Djibouti provides the PRC with the ability to support a military response to contingencies affecting China's investments and infrastructure in the region and the approximately 1 million PRC citizens in Africa and 500,000 in the Middle East. The PLANMC presence in Djibouti also embarks a contingent of marines with the PLAN's Gulf of Aden counterpiracy-focused naval escort task force that supports China's trade interests. Additionally, the PLANMC supports the PRC's military diplomacy. For example, it has trained with Russian and Thai forces and participated in exchanges with the United States and Australia.

Major Naval Units

Northern Theater Navy
- 1 Aircraft Carrier
- 4 Nuclear-powered Attack Submarines
- 14 Diesel-powered Attack Submarines
- 1 Crusier
- 9 Destroyers
- 12 Frigates
- 10 Corvettes
- 2 Tank Landing Ships
- 5 Medium Landing Ships
- 18 Missile Patrol Craft

Eastern Theater Navy
- 18 Diesel-powered Attack Submarines
- 12 Destroyers
- 23 Frigates
- 19 Corvettes
- 2 Amphibious Transport Docks
- 16 Tank Landing Ships
- 7 Medium Landing Ships
- 46 Missile Patrol Craft

Southern Theater Navy
- 1 Aircraft Carrier
- 4 Nuclear-powered Ballistic Missile Submarines
- 2 Nuclear-powered Attack Submarines
- 14 Diesel-powered Attack Submarines
- 11 Destroyers
- 18 Frigates
- 20 Corvettes
- 4 Amphibious Transport Docks
- 13 Tank Landing Ships
- 9 Medium Landing Ships
- 22 Missile Patrol Craft

0 250 500 Kilometers

Representations of locations are approximate.
Boundary representation is not necessarily authoritative.
Information current as of 01 Jan 2020.

PEOPLE'S LIBERATION ARMY AIR FORCE (PLAAF) AND PLAN AVIATION

Key Takeaways

- The PLAAF and PLAN Aviation together constitute the largest aviation force in the Indo-Pacific region.
- The PLAAF is rapidly catching up to Western air forces. The PLAAF continues to modernize with the delivery of domestically built aircraft and a wide range of UAVs.
- In October 2019, China signaled the return of the airborne leg of its nuclear triad after the PLAAF publicly revealed the H-6N as its first nuclear-capable air-to-air refuelable bomber.

The People's Liberation Army Air Force (PLAAF) and PLAN Aviation together constitute the largest aviation forces in the region and the third largest in the world, with over 2,500 total aircraft (not including trainer variants or UAVs) of which approximately 2,000 are combat aircraft (including fighters, strategic bombers, tactical bombers, multi-mission tactical, and attack aircraft). The PLAAF's role is to serve as a comprehensive strategic air force capable of long-range airpower projection. The PRC's 2019 defense white paper described the PLAAF's missions and tasks as transitioning from territorial air defense to "offensive and defensive operations." In 2017, Lieutenant General Ding Laihang assumed the post of PLAAF commander and exhorted the service to build a truly "strategic" air force capable of projecting airpower at a long range. The PLAAF is rapidly catching up to Western air forces. This trend is gradually eroding longstanding and significant U.S. military technical advantages vis-à-vis the PRC in the air domain.

The CMC's intent is to transform the PLAAF into a more effective and capable force that is proficient at conducting joint operations. The PLAAF is comprised of aviation, airborne, air defense, radar, electronic countermeasure, and communications forces. Amid the wide-ranging reorganization of the PLA, the PLAAF has reorganized into five Theater Command Air Forces, established at least six new air bases, and restructured previously subordinate regiments into brigades under the new bases by disbanding its fighter and fighter-bomber divisions.

Fighters. The PLAAF and PLAN Aviation continue to field greater numbers of fourth-generation aircraft (now more than 800 of 1,500 total operational fighters, not including trainers) and probably will become a majority fourth-generation force within the next several years. For fifth-generation fighters, the PLAAF operationally fielded limited numbers of its new J-20, while development continues on the smaller FC-31/J-31 for export or as a future naval fighter for the PLAN's next class of aircraft carriers. During the PRC's 70th anniversary parade in October 2019, the PLAAF conducted

high-profile flyovers of its J-20, and J-16 and J-10C advanced fourth-generation fighters armed with the latest air-to-air missiles (AAMs). In addition, the PRC has received delivery of all 24 Su-35 advanced fourth-generation fighters it purchased from Russia in 2016. Finally, the PLAAF is preparing upgrades for the J-20, which may include increasing the number of AAMs the fighter can carry in its low-observable configuration, installing thrust-vectoring engine nozzles, and adding super cruise capability by installing higher-thrust indigenous WS-15 engines.

Bombers. China's bomber force is composed of H-6 Badger variants, which are domestically produced versions of the Soviet Tupolev Tu-16 (Badger) bomber. Despite the relative age of its bomber force, China has worked to maintain and enhance the operational effectiveness of these aircraft. In recent years, China has fielded greater numbers of the H-6K, a modernized H-6 variant that integrates standoff weapons and features more-efficient turbofan engines for extended-range. The H-6K can carry six LACMs, giving the PLA a long-range standoff precision strike capability that can range Guam from home airfields in mainland China. PLAN Aviation has traditionally fielded the H-6G to support maritime missions. More recently, PLAN Aviation has begun operating the H-6J, a maritime strike version of the H-6K with six weapons pylons for ASCMs. This aircraft carries six supersonic long-range YJ-12 ASCMs and can attack warships out to the Second Island Chain – significantly extending PLAN Aviation's reach. During the PRC's 70th anniversary parade in 2019, the PLAAF publicly revealed the H-6N, a derivative of the H-6K optimized for long-range strikes. The H-6N features a modified fuselage that allows it to carry externally either a drone or an air-launched ballistic missile (ALBM) that may be nuclear capable. The H-6N's air-to-air refueling capability also provides it greater reach over other H-6 variants that are not refuelable in air. In addition, the PLAAF is seeking to extend its power projection capability with the development of a new stealth strategic bomber. PLAAF leaders publicly announced the program in 2016, however commentators speculate that it may take more than a decade to develop this type of advanced bomber.

Special Mission Aircraft. In 2019, the PLAAF publicly debuted its new Y-9 communications jamming/electronic countermeasures aircraft (known as the GX-11). This aircraft is designed to disrupt an adversary's battlespace awareness at long ranges. The PLA can conduct air-to-air refueling operations to extend the ranges of its fighter and bomber aircraft equipped with refueling probes using the H-6U, a modified tanker variant of the H-6 bomber, as well as a small number of larger IL-78 Midas purchased from Ukraine. In addition, China is developing a tanker variant of its Y-20 heavy-lift transport, which will enable the PLAAF to expand its tanker fleet and improve the PLAAF's ability to operate beyond the First Island Chain from bases in mainland China.

Production and deliveries of the KJ-500—China's most advanced airborne early warning and control (AEW&C) aircraft—continued at a rapid pace, joining earlier KJ-2000 Mainring and KJ-200 Moth

variants. These aircraft amplify PLAAF's ability to detect, track, and target threats in varying conditions, in larger volumes, and at greater distances. These aircraft also help to extend the range of the PRC's integrated air defense system (IADS) network. Furthermore, China has produced at least one KJ-500 with an aerial refueling probe, which will improve the aircraft's ability to provide persistent AEW&C coverage.

China's aviation industry continues to advance with deliveries of its domestic Y-20 large transport aircraft and completion of the world's largest seaplane, the AG600. Both aircraft made debut appearances at the Zhuhai Air Show in November 2016. These new transports will supplement and eventually replace China's small fleet of strategic airlift assets, which to date, consists of a limited number of Russian-made IL-76 aircraft. These large transports are intended to support airborne C2, logistics, paradrop, aerial refueling, and strategic reconnaissance operations as well as HA/DR missions.

Unmanned Aerial Vehicles (UAVs). The PRC displayed its largest ever suite of UAV aircraft at the Zhuhai Air Show in November 2018. In addition to displays of armed-capable reconnaissance UAVs such as the Yunying, Caihong CH-4 and CH-5, and Yilong (Wing Loong) series of aircraft, there were multiple of displays of low-observable flying-wing aircraft such as the CH-7, Tianying, and Yaoying-III to complement earlier flying wing UAVs such as the Anjian and Lijian. The Tengden Company also displayed armed UAVs, such as the TW328, as well as a large dual-engine TW356 transport UAV that suspends a large cargo pod between the two large engine nacelles. China has begun deploying its Xianglong joined-wing high altitude reconnaissance UAV to airfields in Western China and to Hainan Island. China is continuing to develop the Shendiao and upgrade the BZK-005 Changying to a larger and longer enduring aircraft. During the PRC's 70th anniversary parade, the PLA displayed several advanced unmanned aerial systems such as the rocket-powered, high-speed Wuzhen-8 and the Gongji-11 stealth unmanned combat aerial vehicle.

Air and Missile Defense. The PLAAF possesses one of the largest forces of advanced long-range SAM systems in the world, composed of Russian-sourced SA-20 (S-300) battalions and domestically produced CSA-9 (HQ-9) battalions. To improve its strategic long-range air defenses, the PRC has contracted with Russia to acquire the SA-21 (S-400) SAM system and is developing the CSA-21 (HQ-9B) as follow-ons to its SA-20s and CSA-9s. The PLAAF conducted its first SA-21 test fires in December 2018. The PRC is also developing its indigenous CH-AB-X-02 (HQ-19), which will likely have a ballistic missile defense (BMD) capability. China is also developing kinetic-kill vehicle technology to field a mid-course interceptor, which will form the upper layer of a multi-tiered missile defense.

Airborne. The PLAAF Airborne Corps comprises up to six airborne combined-arms brigades (to include an air assault combined-arms brigade), a SOF brigade, a service support brigade, and an air transport brigade. At least one of the airborne combined-arms brigades is mechanized with air-droppable tracked ZBD03 infantry fighting vehicles. In 2019, the airborne brigades continued integration and parachute and heavy drop training, while the air assault brigade emphasized air landing operations, rapid force projection, and integration into airborne operations. In summer 2019, elements from one of the PLAAF Airborne Corps brigades participated in Russia's TSENTR-2019 exercise, conducting combined airborne operations including parachute drops and airborne landing operations with Russian troops. Additionally, China held a seminar in Beijing focused on airborne integration into joint operations and improving airborne training.

Major Aviation Units

PEOPLE'S LIBERATION ARMY ROCKET FORCE (PLARF)

Key Takeaways

- In 2019, the PLARF advanced long-term modernization plans to enhance its "strategic deterrence."
- In 2019, the PRC launched more ballistic missiles for testing and training than the rest of the world combined.
- The PLARF continues to grow its inventories of DF-26 intermediate-range ballistic missiles (IRBMs) which is capable of conducting both conventional and nuclear precision strikes against ground targets as well as conventional strikes against naval targets.
- The PRC is developing new intercontinental ballistic missiles (ICBMs) that will significantly improve its nuclear-capable missile forces and will require increased nuclear warhead production, partially due to the introduction of multiple independently targetable reentry vehicle (MIRV) capabilities.
- The number of warheads on the PRC's land-based ICBMs capable of threatening the United States is expected to grow to roughly 200 in the next five years.

The PLA Rocket Force (PLARF) organizes, mans, trains, and equips the PRC's strategic land-based nuclear and conventional missile forces and associated support forces and missile bases. The PLARF is a critical component of the PRC's nuclear deterrence strategy to deter and counter third-party intervention in regional conflicts. The PLARF, previously known as the PLA Second Artillery Force, was elevated to the status of a full service alongside the PLAA, PLAN, and PLAAF and renamed as part of the sweeping PLA reforms initiated in late 2015. According to the PRC's 2019 defense white paper, the PLARF is working towards "enhancing its credible and reliable capabilities of nuclear deterrence and counterattack, strengthening intermediate and long-range precision strike forces, and enhancing strategic counter-balance capability, so as to build a strong and modernized rocket force." In 2019, the PLARF's participation in the PRC's 70th anniversary military parade was designed to show its progress towards goals first publicized by Chairman Xi Jinping in 2016 and 2017 to "achieve a great rise in strategic capabilities" and accelerating the PLARF's pace of development and making enhanced "breakthroughs…in strategic deterrence capability."

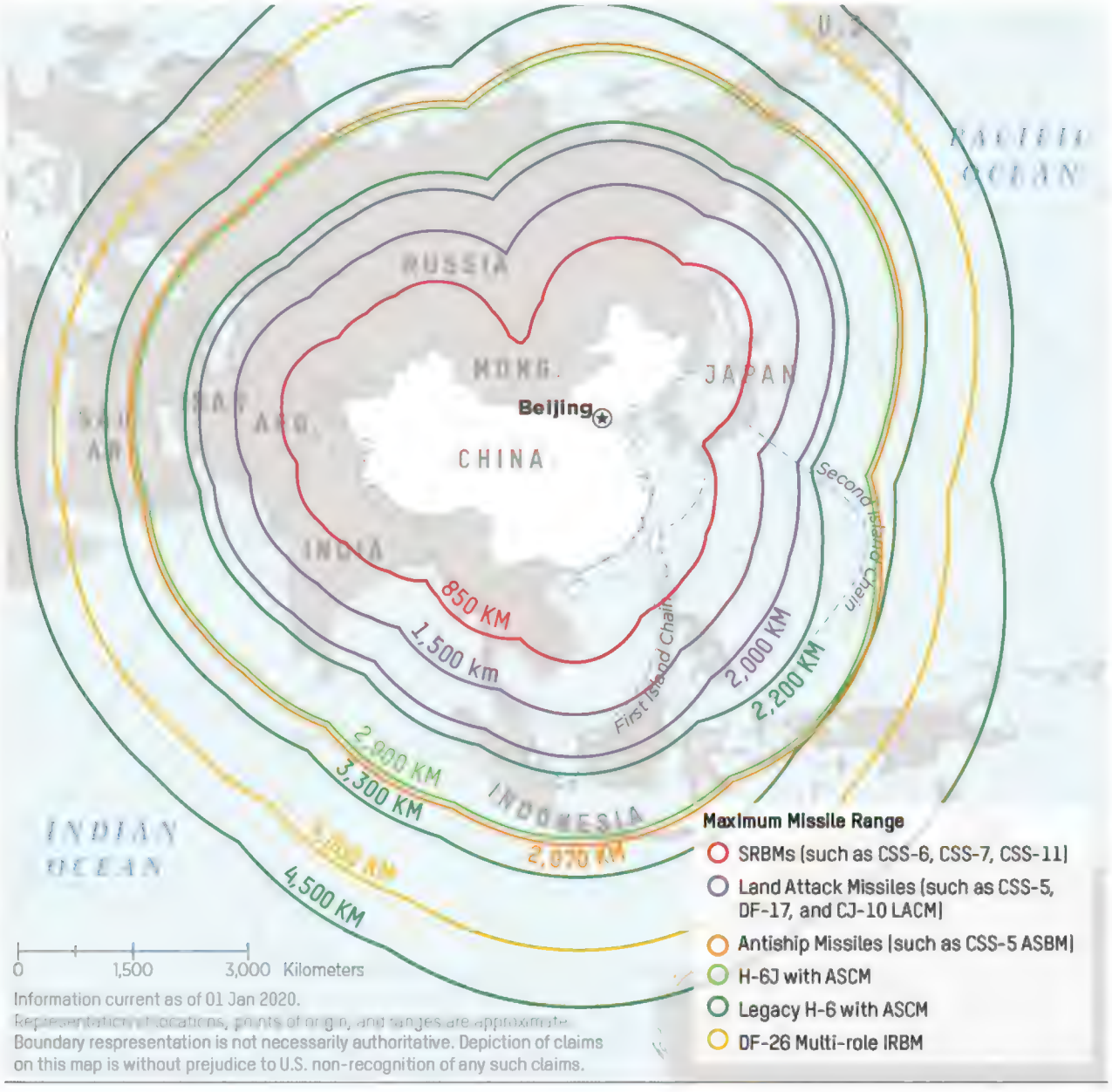
The PLARF fields a variety of conventional mobile ground-launched short-, medium-, and intermediate-range ballistic missiles and ground-launched cruise missiles. The PLARF's ground-based missile forces compliment the air and sea-based precision strike capabilities of the PLAAF and PLAN. The PLARF's conventional missile forces includes the CSS-6 (DF-15) short-range ballistic missile

(SRBM) (range 725-850 km); the CSS-7 (DF-11) SRBM (600 km); the CSS-11 (DF-16) SRBM (more than 700 km); land-attack and anti-ship variants of the CSS-5 (DF-21) medium-range ballistic missile (MRBM) (approximately 1,500 km); the DF-26 IRBM (approximately 4,000 km); and the CJ-10 (DH-10) ground-launched cruise missile (GLCM) (approximately 1,500 km). The PLARF's conventionally armed CSS-5 Mod 5 (DF-21D) ASBM variant gives the PLA the capability to conduct long-range precision strikes against ships, including aircraft carriers, out to the Western Pacific from mainland China. The DF-21D has a range exceeding 1,500 km, is fitted with a maneuverable reentry vehicle (MARV) warhead, and is claimed to be capable of rapidly reloading in the field. The PLARF continues to grow its inventories of DF-26 IRBM, which it first revealed in 2015 and fielded in 2016. The multi-role DF-26 is designed to rapidly swap conventional and nuclear warheads and is capable of conducting precision strikes in the Western Pacific, the Indian Ocean, and the South China Sea from mainland China.

The PLARF is developing and testing several new variants of theater-range missiles and developing capabilities and methods to counter adversary BMD systems. In 2019, the PRC launched more ballistic missiles for testing and training than the rest of the world combined. China has placed a heavy emphasis on developing and testing hypersonic glide vehicles. In August 2018, China successfully tested the XINGKONG-2 (Starry Sky-2), which it publicly described as a hypersonic waverider vehicle. The PLARF also paraded the DF-17 missile for the first time as part of the PRC's 70th anniversary parade in 2019.

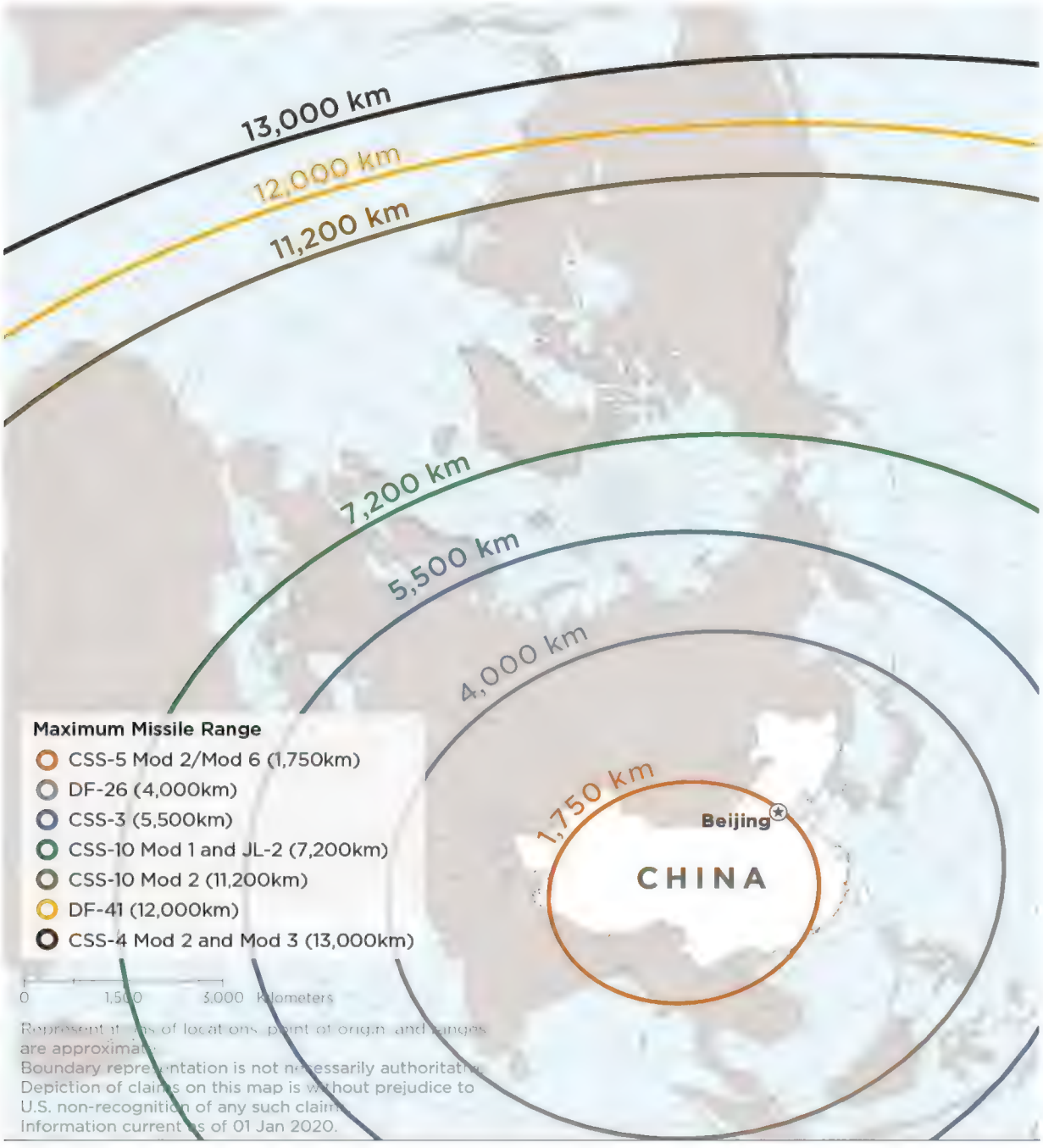
The PLARF is developing ICBMs that will significantly improve its nuclear-capable missile forces with more survivable delivery systems and will require increased nuclear warhead production, partially due to the introduction of MIRV capabilities. The number of warheads on land-based PRC ICBMs capable of threatening the United States is expected to grow to roughly 200 in the next five years. China's fixed ICBM arsenal consists of 100 ICBMs, including the shorter range CSS-3 (DF-4) as well as the silo-based CSS-4 Mod 2 (DF-5A) and MIRV-equipped Mod 3 (DF-5B) which is capable of carrying up to five MIRVs. Chinese media suggests a follow-on DF-5C may be in development. The solid-fueled, road-mobile CSS-10 class missiles complement this force. The CSS-10 Mod 2 (DF-31A), with a range in excess of 11,200 km, can reach most locations within the continental United States. Chinese media reports suggest a DF-31B might also be in development. Development of the CSS-X-20 (DF-41), a new MIRV-capable, road-mobile ICBM, continued in 2019, and the PRC paraded at least 16 road-mobile DF-41 launchers during the 2019 parade that Beijing said belonged to two PLARF brigades. China appears to be considering additional DF-41 launch options, including rail-mobile and silo basing.

Conventional Strike Capabilities



Information current as of 01 Jan 2020.
Representation of locations, points of origin, and ranges are approximate.
Boundary respresentation is not necessarily authoritative. Depiction of claims on this map is without prejudice to U.S. non-recognition of any such claims.

Nuclear Ballistic Missiles


13,000 km
12,000 km
11,200 km
7,200 km
5,500 km
4,000 km
1,750 km
Beijing
CHINA
Maximum Missile Range
CSS-5 Mod 2/Mod 6 (1,750km)
DF-26 (4,000km)
CSS-3 (5,500km)
CSS-10 Mod 1 and JL-2 (7,200km)
CSS-10 Mod 2 (11,200km)
DF-41 (12,000km)
CSS-4 Mod 2 and Mod 3 (13,000km)
0
1,500
3,000 Kilometers
Represent at ns of locat ons, point of origin, and ranges are approximate.
Boundary repre ntation is not n essarily authoritative.
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Information current as of 01 Jan 2020.

Conventional Precision Strike

Short-Range Ballistic Missiles (300-1,000 km). The PLARF has approximately 200 SRBM launchers and over 600 SRBMs. These missile systems include advanced variants with improved ranges and accuracy as well as more sophisticated payloads; earlier generations are being phased out and replaced by variants with true precision strike capability.

Medium-Range Ballistic Missiles (1,000-3,000 km). The PLA fields approximately 150 conventional MRBMs launchers and more than 150 missiles which increase the range at which it can conduct precision strikes against land targets and naval ships operating out to the First Island Chain.

Intermediate-Range Ballistic Missiles (3,000-5,500 km). The PLA's DF-26 is a road-mobile, nuclear and conventional capable IRBM that is able to conduct near-precision strikes as far away from China as Guam in the Second Island Chain. The PLA has fielded approximately 200 IRBM launchers and more than 200 missiles. In conjunction with reconnaissance satellites, the PLAN's expanding network of sky wave and surface wave over-the-horizon (OTH) systems provide warning and targeting capabilities at extended distances from China to support long-range precision strikes, including employment of ASBMs.

Land-Attack Cruise Missiles. The PLA fields approximately 100 ground-launched LACMs launchers and more than 300 missiles for standoff precision strikes. The PLA continues to develop additional LACM-variants for deployment with the PLAN and PLAAF.

Anti-ship Cruise Missiles. China deploys a wide range of advanced ASCMs, with the YJ-83 family of missiles the most numerous, and equipping the majority of China's ships as well as multiple aircraft. China has also outfitted several ships with YJ-62 ASCMs. The YJ-18 is a long range, torpedo tube launched ASCM with a supersonic terminal sprint. It has likely replaced the older YJ-82 on Song, Yuan, and Shang class submarines. China claims its new Luyang III class DDGs and Renhai CGs have a vertically launched variant of the YJ-18. China has also developed the long range supersonic YJ-12 ASCM for the H-6 bomber. At a 2018 exhibition, China displayed a ship-to-ship variant of the YJ-12 called the YJ-12A and the ground launched anti-ship variant YJ-12B. China has deployed the YJ-12B to several outposts in the South China Sea. China carries the Russian SS-N-22 SUNBURN on two Russian-built Sovremenny class DDGs. Upgrades to two of the Sovremenny DDGs (Hulls 136 and 137) allow them to fire the YJ-12A. China also employs the Russian SS-N-27b SIZZLER on eight Russian built Kilo class submarines.

Ground Attack Munitions. The PLAAF has a small number of tactical air-to-surface missiles (ASMs) as well as precision munitions; guidance options include satellite positioning, laser, electro-optic, and

imaging infrared. China is developing or adapting a range of smaller ASMs and guided bombs for use on its expanding fleet of armed UAVs.

Anti-Radiation Weapons. The PLA imported Israeli-made Harpy UAVs and Russian-made anti-radiation missiles during the 1990s. China is integrating the YJ-91, an indigenous version of the Russian Kh-31P (AS-17), into its fighter-bomber force and advertising the ASN-301 anti-radiation drone, an improved domestic variant of the Harpy.

Artillery-Delivered High Precision Munitions. The PLA is fielding long-range rocket artillery systems with the range to strike targets within or even across the Taiwan Strait. The most common of these systems is the PHL-03 12x300 mm multiple-rocket launcher – similar to the Russian 9A52-2

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Artillery-Delivered High Precision Munitions. The PLA is fielding long-range rocket artillery systems with the range to strike targets within or even across the Taiwan Strait. The most common of these systems is the PHL-03 12x300 mm multiple-rocket launcher – similar to the Russian 9A52-2 SMERCH – with a 150 km range. Improved warheads for these rockets may include vertical penetrators and sensor-fuzed munitions.

STRATEGIC SUPPORT FORCE (SSF)

Key Takeaways

- The PLA Strategic Support Forces (SSF) is a theater command-level organization established to centralize the PLA's strategic space, cyber, electronic, and psychological warfare missions and capabilities.
- The SSF's Network Systems Department is responsible for information warfare with a mission set that includes cyberwarfare, technical reconnaissance, electronic warfare, and psychological warfare. Its current major target is the United States.
- The PRC's 2019 defense white paper described space as a "critical domain in international strategic competition" and stated the security of space provided strategic assurance to the country's national and social development.
- The PRC's space enterprise continues to mature rapidly. Beijing has devoted significant resources to growing all aspects of its space program, from military space applications to civil applications such as profit-generating launches, scientific endeavors, and space exploration.

As part of its efforts to restructure the PLA for modern warfare, the CMC established the PLA Strategic Support Force (SSF) in 2016 as a theater command-level organization to centralize the PLA's strategic space, cyber, electronic, and psychological warfare missions and capabilities. The SSF's creation highlights the PRC's understanding of information as a strategic resource in modern warfare. Among the impetuses for the SSF's establishment was the PLA's apparent concern about the disparity between its cyber capabilities and those of the United States and the view of China's leaders that achieving information dominance and denying adversaries the use of the electromagnetic spectrum is necessary to seize and maintain the strategic initiative in a conflict. The SSF was formed from organizations formerly subordinate to the PLA services and the CMC's General Staff Department (GSD) with the goal of creating operational synergies between formerly disparate information warfare capabilities to enable the information dominance that the PRC views will be decisive in future wars. The SSF reports directly to the CMC and supports the entire PLA with its capabilities. The PRC's 2019 defense white paper described the SSF's modernization goals as "seeking to achieve big development strides in key areas and accelerate the integrated development of new-type combat forces, so as to build a strong and modernized strategic support force."

The SSF oversees two deputy theater command-level departments: the Space Systems Department responsible for military space operations, and the Network Systems Department responsible for

information operations (IO), which includes EW, cyber warfare, and psychological operations. At the headquarters level, the SSF has a four-department administrative structure that includes the Staff, Equipment, Political Work, and Logistics Departments. As a strategic organization, the SSF reports directly to the CMC and not to the theater commands. Through its Space Systems Department and Network Systems Department, the SSF provides information support derived from space-based and cyber-based means to all PLA services and the five theater commands. The SFF may be the PRC's first step in the development of a cyber force by centralizing the PLA's previously disparate cyber reconnaissance, cyberattack, and cyber defense capabilities and units into one organization.

In March 2019, General Li Fengbiao replaced General Gao Jin as the SSF commander. Lt. Gen. Shang Hong and Lt. Gen Ju Qiansheng are the commanders of the Space Systems and Network Systems Departments, respectively. Throughout 2019, the SSF participated in joint exercises and training throughout China, including a possible high-level and large-scale joint exercise in the waters and airspace off China's southeastern coast. During 2019, SSF units also exercised establishing command posts and provided joint communications training to the theater commands.

Network Systems Department. The SSF Network Systems Department is responsible for information warfare with a mission set that includes cyberwarfare, technical reconnaissance, EW, and psychological warfare. By placing these missions under the same organizational umbrella, the Party seeks to remedy the operational coordination challenges that hindered information sharing under the PLA's pre-reform organizational structure. The integration of cyber and EW elements under one organization is a crucial step towards realizing the operational concept of integrated network and electronic warfare that the PLA has envisioned since the early 2000s. The Network Systems Department operates five theater designated technical reconnaissance bases, most of the former GSD Third Department's (3PLA's) numbered bureaus, the former GSD 56th, 57th, and 58th Research Institutes, and elements of the GSD Fourth Department (4PLA). The Network Systems Department's current major target is the United States. The Network Systems Department also provides intelligence support to the theater commands' regional focuses.

- ***The SFF and the "Three Warfares" Concept***: The former General Political Department's 311 Base, which now falls under the SFF Network Systems Department, performs missions and tasks associated with the PLA's concept of "Three Warfares" which comprises psychological warfare, public opinion warfare, and legal warfare. This base is the only publicly known organization in the PLA that performs psychological warfare operations. The PLA's psychological warfare mission is to shape international public narratives, weaken the enemy's will, shape diplomatic and political narratives, and advance the PRC's interests through all phases of conflict.

Space Systems Department. The SSF Space Systems Department is responsible for nearly all PLA space operations, including: space launch and support; space surveillance; space information support; space telemetry, tracking, and control; and space warfare. The Space Systems Department seeks to resolve the bureaucratic struggles that existed over the PLA space mission, as elements of the mission were previously dispersed across several national and service-subordinate organizations. The PRC officially designated space as a new domain of warfare in its 2015 defense white paper, and expects space to play an important role in future conflicts by enabling long-range precision strikes and in denying other militaries the use of overhead command, control, communications, computers, intelligence, surveillance, and reconnaissance (C4ISR) systems. The Space System Department operates at least eight bases, including those whose core missions are the launch, tracking R&D, and operation of the satellites vital to China's overhead C4ISR architecture. The SSF runs tracking, telemetry, and command stations in Namibia, Pakistan, and Argentina. The SSF also has a handful of Yuan Wang space support ships to track satellite and intercontinental ballistic missile (ICBM) launches.

SSF Research and Development. The SSF operates several subordinate academic and research institutions including the Information Engineering University, Space Engineering University, and the former GSD 56th and 57th Research Institutes. These institutions offer programs in space based surveillance, intelligence, weapon launch and early warning, communications and information engineering, cryptology, big data, and information attack and defense technology.

Space and Counterspace Capabilities. The PRC's space enterprise continues to mature rapidly. Beijing has devoted significant economic and political resources to growing all aspects of its space program, from military space applications to civil applications such as profit-generating launches, scientific endeavors, and space exploration. The PRC's space enterprise not only includes the SSF but also encompasses other military, government, and civilian organizations, including state-owned enterprises, academic institutions, and commercial entities. The PLA has historically managed the PRC's space program and the SSF Space Systems Department is responsible for nearly all PLA space operations. The PRC continues to strengthen its military space capabilities, despite its public stance against the weaponization of space. The PLA continues to invest in improving its capabilities in space-based intelligence, surveillance, and reconnaissance (ISR), satellite communication, satellite navigation, and meteorology, as well as human spaceflight and robotic space exploration. China plans to have a permanently operating space station by 2022 that will host its own and foreign payloads and astronauts. China has built an expansive ground support infrastructure to support its growing on-orbit fleet and related functions including spacecraft and space launch vehicle (SLV) manufacture, launch, C2, and data downlink. Additionally, the PRC continues to develop counterspace capabilities—

including direct ascent, co-orbital, electronic warfare, and directed energy capabilities—that can contest or deny an adversary's access to and operations in the space domain during a crisis or conflict.

In 2019, China launched 34 SLVs (of which 32 were successful) that placed more than 70 spacecraft into orbit including navigation, ISR, and test/engineering satellites, as well as satellites for foreign customers. Key developments in 2019 include:

- *Advancing Space Launch and Access to Space.* In 2019, the PRC continued to develop its space launch capabilities, providing cost-savings through efficiency and reliability, extending their reach into multiple Earth orbits, and improving their capability to rapidly reconstitute space capabilities in low Earth orbit. In December 2019, China launched the Long March-5 (LM-5) heavy lift vehicle as part of its return to flight. China plans to use this launch vehicle for lunar and interplanetary exploration missions in 2020 and use a variant, the LM-5B, to launch the core module of its space station for completion and use by 2022. In June 2019, China performed its first seaborne launch using its LM-11 solid-propellant vehicle. China also successfully launched an updated LM-2C with grid fins on its core stage in July 2019, providing greater landing precision of rocket debris and lowering the risk of collateral damage when falling over China. Additionally, two new launch vehicles were successful in their maiden flights: Hyperbola-1—built by the private firm iSpace—and Smart Dragon-1—built by ChinaRocket, a subsidiary of China Academy of Launch Vehicle Technology. LinkSpace, another private firm, completed suborbital tests of reusable rocket technology for its future NewLine-1 reusable launch vehicle, which is expected in 2021. Finally, state-owned commercial company Expace conducted two orbital missions using Kuaizhou-1A light-lift vehicles from the Taiyuan Satellite Launch Center within six hours of one another.

- *Strengthening Satellite Navigation:* Augmenting its regional BeiDou-2 satellite navigation system, the PRC moved closer to achieving global service capabilities through its BeiDou-3 constellation with the launching of nine additional BeiDou-3 satellites in 2019. China also launched one BeiDou-2 satellite in 2019 bringing the combined total of operational BeiDou-2 and BeiDou-3 satellites to 44. By mid-2020, China plans for the BeiDou-3 worldwide constellation to be at full operating capability with 30 satellites, providing mass communication capabilities to its users and additional command and control for the PLA, reducing or removing China's dependence on U.S. GPS. New BeiDou satellites are equipped with radiofrequency inter-satellite links, new atomic clocks, and other advanced technologies. Additionally, China plans to offer satellite-based augmentation services, a worldwide short message service, and internationally recognized search and rescue capabilities.

- *Continuing Lunar Exploration:* In January 2019, China became the first country to soft land a probe on the far side of the Moon with its Chang'e-4 lunar lander. Shortly after reaching the surface, the lander deployed China's second lunar rover, Yutu-2. In May, Yutu-2 completed its primary objective of characterizing materials from the Moon's largest far side crater. Building on these missions, China plans to conduct a lunar sample return mission in the late 2020s, construct a lunar research station around 2025, and establish a crewed lunar research and development base around 2050.

- *Enhancing Data Relay:* China launched the first of its second-generation Tianlian-2 data relay satellites in March. Once complete, the Tianlian-2 satellite will reportedly provide faster data transmission and greater connectivity between ground control stations and spacecraft in low Earth orbit. China could also use the Tianlian-2 satellite constellation to maintain communications with future human spaceflight missions, including its planned space station.

The PLA continues to acquire and develop a range of counterspace capabilities and related technologies, including kinetic-kill missiles, ground-based lasers, and orbiting space robots, as well as expanding space surveillance capabilities, which can monitor objects in space within their field of view and enable counterspace actions. As of May 2018, the PRC's reconnaissance and remote sensing fleet consisted of more than 120 satellites designed to collect data for civil, commercial, or military owners and operators. Reportedly, the PLA owns and operates approximately half of these systems, most of which could support situational awareness of regional rivals and potential flashpoints, while monitoring, tracking, and targeting an adversary's forces. In concert with its marked improvements in satellite navigation, launch capabilities, and space object surveillance and identification, the PRC is developing electronic warfare capabilities such as satellite jammers; offensive cyber capabilities; and directed-energy weapons. Moreover, China has demonstrated sophisticated, potentially damaging on-orbit behavior with space-based technologies. China has an operational ground-based Anti-Satellite (ASAT) missile intended to target low-Earth orbit satellites, and China probably intends to pursue additional ASAT weapons capable of destroying satellites up to geosynchronous Earth orbit. China is employing more sophisticated satellite operations and is probably testing dual-use technologies in space that could be applied to counterspace missions.

Although the PRC has not publicly acknowledged the existence of any new programs since it confirmed it used an ASAT missile to destroy a weather satellite in 2007, the PLA's defense academics often publish on counterspace threat technologies. These scholars stress the necessity of "destroying, damaging, and interfering with the enemy's reconnaissance...and communications satellites," suggesting that such systems, as well as navigation and early warning satellites, could be among the targets of attacks designed to "blind and deafen the enemy."

JOINT LOGISTIC SUPPORT FORCE (JLSF)

Key Takeaways

- The JLSF is establishing support relationships between joint logistic units and other PLA service logistics elements and integrating civilian logistics into military operations.
- The PLA leverages a variety of means and arrangements to use civilian transport resources to move military personnel and equipment more rapidly.

The PLA Joint Logistic Support Force (JLSF) provides integrated joint logistics support for the PLA. Established in 2016, the JLSF intends to be the "backbone" of the PLA's logistics system. The JLSF's development is central to the PRC's efforts to build a joint, lean and efficient "combat-oriented modern logistics system," which Beijing views as essential for modern warfare. The JLSF works to streamline the PLA's joint strategic- and campaign-level logistics by overseeing theater-wide supply operations, establishing and coordinating support relationships among the PLA services' logistics elements, conducting joint logistics exercises with the PLA services, and integrating civilian logistics resources into military operations. In 2019, the JLSF conducted exercises of various size, scope, and complexity that aimed to improve the PLA's ability to conduct joint operations. In 2019, the JLSF troops made their first public debut at the PRC's 70th anniversary parade and the First Party Congress of the JLSF defined its development plans for the next five years. According to the PRC's 2019 defense white paper, the JLSF is "being integrated into the joint operations system to enhance the capabilities of integrated joint logistics, so as to build a strong and modernized joint logistic support force."

Headquartered at the Wuhan Joint Logistics Support Base, the JLSF has force elements for inventory and warehousing, medical services, transport, force projection, oil pipelines, engineering and construction management, reserve equipment, and procurement support. The JLSF provides the PLA with joint strategic- and campaign-level logistics, enabling the PLA to conduct large-scale operations. The JLSF has five subordinate Joint Logistics Service Centers (JLSCs) aligned with the five theater commands that are intend to streamline the PLA's logistics support. During peacetime, the JLSF controls the JLSCs' operations and activities; during wartime, each theater command assumes control of their designated JLSC.

In 2019, the JLSF focused on increasing mobile support speed and exploring new joint training and support opportunities. In the Northern Theater Command, a Shenyang JLSC-subordinate logistic support brigade rapidly delivered fuel and other needed supplies to forward-deployed PLAA elements during a field exercise. A field hospital based in the Eastern Theater Command conducted a cross-

theater, long-distance mobility exercise to a medical training base in Xi'an, located in the Central Theater Command, supported by the PLAAF Military Medical University.

The PLA leverages a variety of means and arrangements to use civilian transport resources to move military personnel and equipment more rapidly. In 2019, the JLSF routinely integrated civilian logistics resources and equipment into military operations and exercises. During a 2019 exercise, Zhengzhou JLSC in the Central Theater Command employed civil air transport to move military personnel and equipment more rapidly, reducing its reliance on rail transport. Also in 2019, the Shenyang JLSC coordinated the movement of soldiers and equipment across Bohai Bay using a civilian roll-on/roll-off ship. JOINT LOGISTIC FORCE 2018B, a Central Theater Command exercise held in late 2018, featured 37 joint military and civilian teams from five provinces and two municipalities operating together to set up refueling stations, medical service centers, maintenance centers, and catering services. This PLA Zhengzhou JLSC organized exercise was a joint service support exercise that featured civilian-military logistics integration and PLAAF participation.

MILITARY READINESS

Key Takeaways

- In recent years, the CMC has directed the PLA to improve its combat readiness. This guidance is increasingly evident in the intensity of the PLA's training and the complexity and scale of its exercises.
- The PLA is training to "fight and win" through increasingly realistic combat training that uses dedicated "blue force" opponents and other elements to improve realism.
- In 2019, the PLA conducted a nation-wide exercise across all five-theater commands that included all four services, the SSF, and the JLSF.

In recent years, the CMC has directed the PLA to improve its combat readiness. This guidance is increasingly evident in the intensity of the PLA's training and the complexity and scale of its exercises. In 2019, the PLA continued to focus its annual training cycle on building readiness through increasingly larger-scale and complex joint exercises, service-level exercises, numerous mission-oriented force-on-force exercises, live-fire exercises, and skills-based competition exercises. Notable is the PLA's focus on increasingly realistic combat training using dedicated "blue force" opponents to improve realism, training simulation technology, and enacting efforts to strengthen and evaluate commanders' ability to conduct joint operations.

In 2019, the PLA conducted a nation-wide exercise across all five-theater commands that included all four services, the SSF, and the JLSF. Led by the CMC's Joint Operational Command Center, the exercises sought to test joint coordinated operations of all five military commands and took place at multiple locations near Taiwan. The exercise could have been simulating a Taiwan or a Senkaku contingency.

In 2019, the PLAA conducted training and evaluations of nearly 200 corps-grade commanders, building upon the testing of the 13 group army commanders in 2018. The PLAA conducted the annual STRIDE and FIREPOWER exercises in 2019 across multiple theaters with elements of combined-arms brigades represented conducting confrontation drills against dedicated opposing forces. The PLAA conducted its annual STRIDE exercise in multiple iterations and focused on evaluating offensive and defense combat capabilities of heavy combined-arms brigades. FIREPOWER continued the series' focus on artillery skills during opposing forces operations, with 2019 iteration notably including elements of an artillery brigade from the PLA Tibet Military District.

As part of its wider series of Ingenious Soldier-2019 exercises, the PLAA also conducted a cyber-simulation exercise, Ingenious Cyber-Electromagnetic Soldier-2019 with approximately 200 troops at a Central Theater Command training base. The exercise indicates the emphasis the PLA has on electronic countermeasures as an operational force in winning wars under informatized conditions.

The PLAN conducted significant training events throughout 2019 and marked the PLAN's 70th anniversary in April 2019 with an international fleet review and naval parade in Qingdao and in the Yellow Sea. The PLAN displayed more than 32 warships, including the lead ship of its new Renhai class guided missile destroyers, its first aircraft carrier—the *Liaoning*—submarines, destroyers, and fighter jets. Nearly 20 foreign vessels from approximately a dozen countries including Russia took part in the review. The PRC probably sought to leverage the fleet review to portray its navy as dedicated to building a maritime community with a shared future by enhancing cooperation, though participating navies' receptivity was uneven. The PLANMC participated in a maritime amphibious assault exercise this year off China's southeastern coast. The exercise incorporated PLANMC amphibious armored vehicles and probably tested incorporating the PLANMC in joint operations.

The PLAAF continues to bolster its readiness and competencies through four key annual training exercises and competitions: RED SWORD, BLUE SHIELD, GOLDEN DART, and GOLDEN HELMET. The primary focus of these activities is to prepare for combat under by training under realistic conditions that introduce uncertainty, such as a complex electromagnetic environment. In 2019, the PLAAF continued its service-level RED SWORD exercise with the focus on systems-on-systems confrontation. RED SWORD also incorporated the live-fire of air defense systems operating

in a degraded electromagnetic environment. The GOLDEN DART exercise incorporated assault fighter and bomber tactical drills on a mockup of an integrated air defense system, which included blue force ground-to-air missiles and surveillance radars. The PLAAF also continues to deploy advanced combat aircraft to train in bilateral and multilateral exercises. In 2019, the PLAAF sent two H-6K bombers to participate in Russia's TSENTR exercise.

The PLARF continued its annual HEAVEN'S SWORD series of exercises in 2019 to focus on preparations for realistic combat training for commanders and troops and to enhance the high state of readiness for combat forces. In 2019, the exercise featured the nighttime transfer of missiles, moving to different launch positions, and a "blue force" confrontation drill.

The SSF conducted a field command post exercise in July 2019 to test troops' familiarity with equipment and refine battlefield communications capabilities in complex terrain environments. In 2019, field hospital teams from JLSF and PLAA hospitals participated in Medical Logistics Forces 2019A and 2019B cross-theater base rotation exercises. In the exercise series, field medical teams practiced maneuvering to medical training bases, overseen by PLAA and PLAAF military medical universities. Each iteration was the first time the participating medical teams conducted a cross-theater mobilization to exercise field medical support capabilities.

INCREASING INTEROPERABILITY WITH PARAMILITARY AND MILITIA

Key Takeaway

> Interoperability and integration between the PLA and the PRC's paramilitary forces continues to grow in scale and sophistication, including the coordination between the PLAN, the CCG, and the People's Armed Forces Maritime Militia (PAFMM).

People's Armed Police (PAP). The PAP is a paramilitary police component of the PRC's armed forces and an armed wing of the CCP. Its primary missions include internal security, maritime security, and assisting the PLA in times of war. In early 2018, the CMC assumed direct control of the PAP after the CCP ended the previous CMC-State Council dual-command system. As part of this reform, the PAP also assumed control of the China Coast Guard (CCG) in July 2018 from the PRC's State Oceanic Administration. In addition to these changes, the PAP has undergone a comprehensive reorganization and shed missions and some specialized forces for border defense, firefighting, natural resource protection (forests, gold mines, and hydropower), allowing the PAP to focus more on internal security. The PAP is comprised principally of the Mobile Corps, the Internal Security Corps, and the CCG. The Mobile Corps is comprised of two large mobile contingents at the national level without fixed geographic areas of responsibility. The Internal Security Corps covers each of the PRC's provinces,

autonomous regions, and centrally administered cities. Each province has at least one PAP contingent focused on rapid response to internal security threats at the provincial and local level. In 2019, the PAP announced the establishment of a new special operations counterterrorism unit called the Mountain Eagle Commando Unit, based in the Xinjiang Uyghur Autonomous Region to support the CCP's growing counterterrorism efforts. Unlike the PAP's two other commando units, the Snow Leopard Unit and the Falcon Unit, the Mountain Eagle Unit is reportedly designed to operate in more austere terrain environments characterized by mountains and plateaus as opposed to urban warfare.

In 2018, Chairman Xi Jinping tasked the PAP to improve "combat-ready training" and rapidly integrate into the PLA's joint operation system. The PAP is increasingly focusing on internal security and joint operations with the PLA and is developing capabilities for rapid response, mobility, and counterterrorism operations. In addition, the PAP conducts training with foreign counterparts. Since at least 2016, PAP forces have likely operated in Tajikistan, patrolling the tri-border region connecting Tajikistan, Afghanistan, and China. In 2019, the PAP hosted joint counterterrorism training in China and in Uzbekistan and Kyrgyzstan.

China's Coercive Approach

China's leaders use tactics short of armed conflict to pursue China's objectives. China calibrates its coercive activities to fall below the threshold of provoking armed conflict with the United States, its allies and partners, or others in the Indo-Pacific region. These tactics are particularly evident in China's pursuit of its territorial and maritime claims in the South and East China Seas as well as along its border with India and Bhutan.[1] In recent years, the PLA has also increased patrols around and near Taiwan using bomber, fighter, and surveillance aircraft to signal Taiwan. China also employs non-military tools coercively, including economic tools during periods of political tensions with countries that China accuses of harming its national interests.

China Coast Guard (CCG). The CCG is subordinate to the PAP and is responsible for a wide range of missions under the umbrella of maritime rights protection, including enforcement of the PRC's sovereignty claims, surveillance, protection of fisheries' resources, anti-smuggling, and general law enforcement. In July 2018, the CCG completed its merger into the CMC command structure through its subordination to the PAP, which itself is under the CMC like the PLA. This could facilitate closer coordination between the CCG and the PLAN. The PRC primarily uses paramilitary maritime law

enforcement agencies in maritime disputes, selectively using the PLAN to provide overwatch in case of escalation.

The CCG's rapid expansion and modernization has improved China's ability to enforce its maritime claims. Since 2010, the CCG's fleet of large patrol ships (more than 1,000 tons) has more than doubled from approximately 60 to more than 130 ships, making it by far the largest coast guard force in the world and increasing its capacity to conduct simultaneous, extended offshore operations in multiple disputed areas. Furthermore, the newer ships are substantially larger and more capable than the older ships, and the majority are equipped with helicopter facilities, high-capacity water cannons, and guns ranging from 30 mm to 76 mm. A number of these ships are capable of long-endurance and out-of-area operations. These characteristics give CCG vessels the ability to intimidate local, non-PRC fishing boats, as occurred in an October 2016 incident near Scarborough Reef.

In addition, the CCG operates more than 70 fast patrol combatants (more than 500 tons), which can be used for limited offshore operations, more than 400 coastal patrol craft, and approximately 1,000 inshore and riverine patrol boats. The CCG is likely to add another 25-30 patrol ships and patrol combatants by the end of the decade before the construction program levels off.

People's Armed Forces Maritime Militia (PAFMM). The PAFMM is a subset of China's national militia, an armed reserve force of civilians available for mobilization. Militia units organize around towns, villages, urban sub-districts, and enterprises, and vary widely in composition and mission. In the South China Sea, the PAFMM plays a major role in coercive activities to achieve the PRC's political goals without fighting, part of broader Chinese military theory that sees confrontational operations short of war as an effective means of accomplishing political objectives. The militia has played significant roles in a number of military campaigns and coercive incidents over the years, including the 2009 harassment of USNS *Impeccable* conducting normal operations, the 2012 Scarborough Reef standoff, the 2014 Haiyang Shiyou-981 oilrig standoff, and a large incursion in waters near the Senkakus in 2016.

A large number of PAFMM vessels train with and assist the PLAN and CCG in tasks such as safeguarding maritime claims, surveillance and reconnaissance, fisheries protection, logistic support, and search and rescue. The government subsidizes various local and provincial commercial organizations to operate militia vessels to perform "official" missions on an ad hoc basis outside of their regular civilian commercial activities.

The PAFMM often rents fishing vessels from companies or individual fishermen. However, China has also built a state-owned fishing fleet for at least part of its "maritime militia" in the South China

Sea. The Hainan provincial government, adjacent to the South China Sea, ordered the building of 84 large militia fishing vessels with reinforced hulls and ammunition storage, which the militia received by the end of 2016, along with extensive subsidies to encourage frequent operations in the Spratly Islands. This particular PAFMM unit is also China's most professional. Its forces are paid salaries independent of any clear commercial fishing responsibilities and recruited from recently separated veterans.

PLA CAPABILITIES IN DEVELOPMENT

Key Takeaways

- The PLA is developing capabilities to provide options for the PRC to dissuade, deter, or, if ordered, defeat third-party intervention during a large-scale, theater campaign such as a Taiwan contingency. U.S. defense planners often refer to these collective capabilities as anti-access/area-denial (A2/AD) capabilities.
- The PLA is additionally developing the capabilities and operational concepts to conduct offensive operations within the Second Island Chain, in the Pacific and Indian Oceans, and in some cases, globally.

MILITARY CAPABILITIES FOR A2/AD WITHIN THE FIRST ISLAND CHAIN

Key Takeaways

- In addition to strike, air and missile defense, anti-surface and anti-submarine capabilities improvements, China is focusing on information, cyber, and space and counterspace operations.
- The PLA's A2/AD capabilities are, to date, the most robust within the First Island Chain, although the PRC seeks to strengthen its capabilities to reach farther into the Pacific Ocean.

The PRC's military modernization plan includes the development of A2/AD capabilities to conduct long-range attacks against adversary forces who might deploy or operate within the western Pacific Ocean. The PLA's A2/AD capabilities are, to date, the most robust within the First Island Chain, although the PRC seeks to strengthen its capabilities to reach farther into the Pacific Ocean. These capabilities span the air, maritime, space, electromagnetic, and information domains.

Long-Range Precision Strike. Military modernization has resulted in the rapid transformation of the PLA's missile force. U.S. bases in Japan are in range of a growing number of Chinese MRBMs and LACMs. H-6K bomber flights into the western Pacific Ocean demonstrate China's ability to range

Guam with air-launched LACMs. The DF-26, which debuted publicly in 2015 and was paraded by China again in 2017, is capable of conducting precision conventional or nuclear strikes against ground targets, which could include U.S. bases on Guam. PLA writings see logistics and power projection assets as potential vulnerabilities in modern warfare – a judgement in accord with an expanding ability to target regional air bases, logistics and port facilities, communications, and other ground-based infrastructure.

Ballistic Missile Defense (BMD). China is working to develop ballistic missile defenses consisting of exo-atmospheric and endo-atmospheric kinetic-energy interceptors. In 2016, official media confirmed China's intent to move ahead with land- and sea-based mid-course missile defense capabilities. The HQ-19 mid-course interceptor has undergone tests to verify its capability against 3,000 km-class ballistic missiles, and an HQ-19 unit may have begun preliminary operations in western China. Indigenous radars including the JY-27A and JL-1A – the latter advertised as capable of precision tracking of multiple ballistic missiles – reportedly provide target detection for the system.

The PLA's long-range SAM inventory also offers a limited capability against ballistic missiles. China's domestic CSA-9 (HQ-9) long-range SAM system likely has a limited capability to provide point defense against tactical ballistic missiles. China has fielded SA-20 (S-300 PMU2) SAMs, and its SA-21 (S-400) SAMs may have some capability to engage ballistic missiles, depending on the interceptors and supporting infrastructure.

Surface and Undersea Operations. China continues to construct an array of offensive and defensive capabilities to enable the PLA to gain maritime superiority within the first island chain – the islands running from the Kurils, through Taiwan, to Borneo, roughly encompassing the Yellow Sea, East China Sea, and South China Sea – and grow toward projecting limited combat power at longer ranges. China's broad range of ASCMs and launch platforms as well as submarine-launched torpedoes and naval mines allow the PLAN to create an increasingly lethal, multi-access threat against an adversary approaching Chinese waters and operating areas. Additionally, the PLA has fielded CSS-5 ASBMs specifically designed to hold adversary aircraft carriers at risk when located up to 1,500 km off China's coast, and it has an ASBM variant of the longer range DF-26 IRBM. The PLA's undersea domain capabilities are gradually progressing as well, but it continues to lack a robust deep-water anti-submarine warfare capability. China is installing undersea monitoring systems, which could improve China's knowledge of the undersea environment. Whether the PLA can collect accurate targeting information and pass it to launch platforms in time for successful strikes in sea areas beyond the first island chain is unclear.

Information Operations (IO). China assesses that controlling the information spectrum in the modern battlespace is a critical enabler, if not a fundamental prerequisite, of its ability to counter third-party intervention in a conflict. PLA authors often cite this capability – sometimes termed "information blockade" or "information dominance" – as necessary to seize the initiative and set the conditions necessary to gain air and sea superiority. This "information blockade" concept likely envisions combining military capabilities across space and cyber domains with non-military instruments of state power. China's investment in advanced electronic warfare (EW) systems, counterspace capabilities, and cyber operations – combined with more traditional forms of information control, such as propaganda and denial via opacity – reflect the priority the PLA places on information advantage.

Space and Counterspace. PLA strategists regard the ability to use space-based systems – and to deny them to adversaries – as central to modern warfare. The PLA continues to strengthen its military space capabilities, despite its public stance against the militarization of space. The PLA views space operations as a key enabler of PLA campaigns aimed at countering third-party intervention, although many PLA writings have not elevated these operations to the level of a separate "campaign." China seeks to enhance C2 in joint operations and establish a real-time surveillance, reconnaissance, and warning system, and it is increasing the number and capabilities of its space systems, including various communications and intelligence satellites as well as the Beidou navigation satellite system. China also continues to develop counterspace capabilities and related technologies, including kinetic-kill missiles, ground-based lasers, and orbiting space robots, as well as expanding space surveillance capabilities, which can monitor objects across the globe and in space and enable counterspace actions.

Cyber Operations. PLA researchers believe that building strong cyber capabilities are necessary to protect Chinese networks and advocate seizing "cyberspace superiority" by using offensive cyber operations to deter or degrade an adversary's ability to conduct military operations against China. Chinese writings suggest cyber operations allow China to manage the escalation of a conflict because cyber attacks are a low-cost deterrent. The writings also suggest that cyber attacks demonstrate capabilities and resolve to an adversary. To support A2/AD, Chinese cyber attack operations aim to target critical military and civilian nodes to deter or disrupt adversary intervention, and to retain the option to scale these attacks to achieve desired conditions with minimal strategic cost. China believes its cyber capabilities and cyber personnel lag behind the United States, and it is working to improve training and bolster domestic innovation to overcome these perceived deficiencies and advance cyberspace operations.

Integrated Air Defense System (IADS). China has a robust and redundant IADS architecture over land areas and within 300 nm (556 km) of its coast that relies on an extensive early warning radar

network, fighter aircraft, and a variety of SAM systems. China is also placing radars and air defense weapons on outposts in the South China Sea, further extending its IADS. It also employs point defenses, primarily to defend strategic targets against adversary long-range cruise missiles and airborne strike platforms.

China has increasing numbers of advanced long-range SAMs, including its indigenous CSA-9, Russian SA-10 (S-300 PMU), and SA-20 (S-300 PMU1/PMU2), all of which have the advertised capability to protect against both aircraft and low-flying cruise missiles. To improve its strategic air defenses, China has taken initial delivery of the Russian-built S-400 Triumf SAM system as a follow-on to the SA-20. Compared to these other systems, the S-400s feature a longer maximum range, improved missile seekers, and more sophisticated radars. China manufactures a variety of long-range air surveillance radars, including models claiming to support ballistic missile defense and other models asserting the ability to detect stealth aircraft. Marketing materials also emphasize these systems' ability to counter long-range airborne strike and combat support aircraft. PLAAF airborne early warning and control (AEW&C) aircraft such as the KJ-2000 and KJ-500 can further extend China's radar coverage well past the range of its ground-based radars.

- *Ballistic Missile Defense (BMD).* The PLA's long-range SAM inventory also offers a limited capability against ballistic missiles. China's domestic CSA-9 (HQ-9) long-range SAM system likely has a limited capability to provide point defense against tactical ballistic missiles. China has fielded SA-20 (S-300 PMU2) SAMs, and its SA-21 (S-400) SAMs may have some capability to engage ballistic missiles, depending on the interceptors and supporting infrastructure. China is working to develop BMD systems consisting of exo-atmospheric and endo-atmospheric kinetic-energy interceptors. PRC state media confirmed China's intent to move ahead with land- and sea-based mid-course missile defense capabilities in 2016. The HQ-19 interceptor has undergone tests to verify its capability against 3,000 km-range ballistic missiles. In addition, China is pursuing a mid-course interceptor that may have capabilities against IRBMs and possibly ICBMs.

Air Operations. The PLA's planned fielding of a fifth-generation fighter force will bolster its air-to-air capability, adding to the airpower of China's fourth-generation Russian-built Su-27/Su-30 and J-11A, and its indigenous J- 10A/B/C, J-11B, and more advanced J-16 fighters. The J-20 and FC-31/J-31 feature high maneuverability, stealth characteristics, and an internal weapons bay, as well as advanced avionics and sensors providing enhanced situational awareness, advanced radar tracking and targeting capabilities, and integrated EW systems.

- The PLAAF's growing fleet of J-20, J-16, and J-10C fighters operating with KJ-500 AEW&C aircraft will enable longer-range A2/AD and counterair operations across the Western Pacific Ocean.
- China's continuing upgrades to its bomber fleet will give it the capability to carry new, longer-range cruise missiles. In addition, the PLAAF has added an aerial refueling capability to its new H-6N, extending its range and/or loiter time. Moreover, China is developing the Y-20U, a new tanker variant of its large Y-20 heavy-lift transport, which will enable the PLAAF to significantly expand its tanker fleet and improve its power projection capabilities.
- The PLAAF employs the medium-range H-6K bomber, which can carry up to six precision-guided CJ-20 air-launched cruise missiles (ALCMs) each, giving it the ability to engage U.S. forces as far away as Guam. Since 2016, the PLAAF has steadily increased H-6K operating areas into the western Pacific Ocean and the South China Sea. China continues to employ long-range circumnavigation flights to deter and intimidate Taiwan.
- The PLAN is currently fielding the H-6J bomber, a maritime derivative of the H-6K, which can carry up to six supersonic YJ-12 ASCMs each, allowing for saturation attacks against U.S. naval groups within the Second Island Chain. These will supplement the existing PLAN H-6G bombers capable of carrying up to four YJ-12 ASCMs.

MILITARY CAPABILITIES FOR POWER PROJECTION BEYOND THE FIRST ISLAND CHAIN

Key Takeaways

- The PRC continues to increase its military capabilities to achieve regional and global security objectives beyond a Taiwan contingency.
- China's continuing improvements of air and ground-based missile strike capabilities within and, increasingly, beyond the First Island Chain enable other military assets to operate farther from China.
- China continues to build a multi-carrier force. China's next generation of carriers will have greater endurance and a catapult system.

The PRC continues to increase its military capabilities to achieve regional and global security objectives beyond a Taiwan contingency. PLA ground, naval, air and missile forces are increasingly capable of

projecting power at greater distances from China and they are expanding the PLA's capacity to contest U.S. military superiority in the event of a conflict.

Improvements in China's air and ground-based missile capabilities to range targets beyond the First Island Chain enable other military assets to operate farther from China. These assets can conduct a variety of missions, including sovereignty enforcement and offensive operations such as blockades. China is also enhancing the PLA's ISR capabilities to extend the reach of the PLA's situational awareness, enabling timely responses to perceived threats.

PLA Army (PLAA). Power projection and ground force maneuver for multi-domain operations are consistent themes in the PLAA's modernization efforts. The PLAA continues to play a vital role in the PRC's military defense structure, but the CMC demands that the PLAA emphasize long-range maneuver capabilities and trans-theater exercises. In order to accommodate this, the PLAA is refining its capabilities and prioritizing modernization to prepare for multi-domain, multi-functional operations, and the ability to sustain those operations.

The PLAA's restructuring highlighted and empowered the use of combined-arms brigades and battalions, and the PLAA has started to place an emphasis on the concept of smaller, more adaptable and rapidly deployable formations. The rapidly deployable battalions within PLAA combined-arms brigades have become the new standard "combat element" for the PLAA for combined-arms and joint operations. Medium and light combined-arms battalions are equipped with wheeled, high-mobility vehicles to support rapid, long-range maneuver while conducting independent operations.

As a part of the PLA restructuring, the PLAA increased its number of SOF brigades to 15, providing PLAA commanders at the tactical and operational levels specialized reconnaissance, sabotage effects, and infiltration in support of contingency operations beyond China's borders. During 2019, official PLA media published articles and videos discussing the SOF brigades' capacity for long-range reconnaissance, air mobility, parachute insertion and joint capability, as well as the use of highly trained infantry forces used for rapid strike and seizure operations in unfamiliar locations.

The PLAA's advancing rotary wing aviation capabilities and, more specifically, its new air assault brigades play a vital role in the Army's ability to project power. The PLAA's two air assault brigades participated in an array of training scenarios where they were reportedly able to insert infantry forces on tactical objectives in an expedited fashion. Additionally, the fielding of the new Z-20 medium-lift helicopter will provide the air assault and army aviation brigades with new capabilities for rapid airlift and long-range insertion.

PLA Navy (PLAN). The PLAN continues to develop into a global force, gradually extending its operational reach beyond East Asia into a sustained ability to operate at increasingly longer ranges. The PLAN's latest surface and subsurface platforms enable combat operations beyond the reach of the PRC's land-based defenses. In particular, China's aircraft carriers and planned follow-on carriers, once operational, will extend air defense coverage beyond the range of coastal and shipboard missile systems and will enable task group operations at increasingly longer ranges. The PLAN's emerging requirement for sea-based land-attack systems will also enhance the PRC's ability to project power. Furthermore, the PLAN now has a sizable force of highly capable logistical replenishment ships to support long-distance, long-duration deployments, including two new Fuyu class fast combat support ships (AOEs) built specifically to support aircraft carrier operations. The PLAN's expanding fleet of large modern amphibious warships will enable it to conduct in a wide range of expeditionary operations wherever PRC interests are threatened or in support of PRC participation in UN-sanctioned peacekeeping operations. The expansion of naval operations beyond China's immediate region will also facilitate its non-war military activities and further legitimize the PRC's growing global military posture, including its base in Djibouti.

- The PLAN's force structure continues to evolve, incorporating more platforms with the versatility for both offshore and long- distance power projection. China is engaged in series production of the Renhai class CG, the Luyang III MOD class DDG, and the Jiangdao class FFL, with the full production run of Jiangkai II FFGs probably completed with the delivery of the 30th unit in the class. The Renhai CG displaces more than 10,000 tons and can carry an array of long-range ASCMs and SAMs. It will likely be able to launch ASBMs and LACMs once these weapons are available. The Renhai CG will be China's premier carrier escort for blue-water operations. Four units are currently outfitting, with several more under construction.

- The PLAN continues to extend its strike range with more domestically produced ship-, submarine-, and aircraft-deployed ASCMs with the exception of a few legacy missiles imported from Russia in the 1990s and early 2000s.

- China continues to learn lessons from operating its first aircraft carrier, Liaoning. Its first domestically built aircraft carrier, Shandong, was launched in 2017 and commissioned in December 2019—the beginning of what the PLA states will be a multi-carrier force. China's next generation of carriers, including one that began construction in 2018, will have greater endurance and a catapult launch system capable of launching various types of special mission fixed-wing aircraft for missions such as early warning, EW, and ASW. These improvements would increase the striking power of a potential carrier battle group when deployed to areas beyond China's immediate periphery.

- The PLAN continues to build multiple new, large ships that can support force projection operations, including LHAs, LPDs, large logistic support ships, and specialized blue-water auxiliary ships—including high-capability intelligence collection ships (AGI/AGOS).

The PLAN's ability to perform missions beyond the First Island Chain is modest but growing as it gains more experience operating in distant waters and acquires larger and more advanced platforms. China's experience in extended range operations primarily comes from extended task group deployments and its ongoing counterpiracy mission in the Gulf of Aden.

- In June 2019, Liaoning, accompanied by at least five additional ships transited the Miyako Strait in the First Island Chain en route to the Western Pacific for what China stated was a routine training exercise. The presence of an AOE increases the PLAN's capability to conduct extended carrier operations.

- The PLAN sustained its counter-piracy task groups in the Gulf of Aden in 2019, a ten-year effort that is the PRC's first enduring naval operation beyond the Indo-Pacific region.

- PLAN AGIs operated beyond the First Island Chain in 2019; one Type 815 Dongdiao-class AGI deployed to Australian waters to collect against the trilateral exercise TALISMAN SABER held by the United States, Australia, and Japan.

China has long challenged foreign military activities in its maritime zones in a manner that is inconsistent with the rules of customary international law as reflected in the Law of the Sea Convention. However, in recent years, the PLA has begun conducting the very same types of military activities inside and outside the First Island Chain in the maritime zones of other countries. This activity highlights China's double standard in the application of international law. Examples include sending AGIs to collect on military exercises such as the Rim of the Pacific (RIMPAC) exercise off Hawaii in 2014 and 2018, TALISMAN SABER off Australia in 2019, and a U.S. missile defense test off Alaska in 2017.

PLAN Marine Corps (PLANMC). Ultimately, the PLANMC will be capable of operating from the land, sea, and air to support the PLA's global operations, but this goal will likely not be realized by China's stated goal to complete PLA reforms by 2020. Four new brigades have been established, bringing the total number of combat brigades to six, but only the original two brigades are fully mission capable. There is no evidence to indicate the new brigades are manned, trained and equipped to perform expeditionary missions yet. Additionally, the PLANMC has established an aviation brigade, which will provide the force with organic aviation capabilities, and a SOF brigade.

- In 2019, the PLAN launched its first full-length, flat-deck LHA, highlighting China's growing maritime power projection capabilities.

PLA Air Force (PLAAF) and PLA Navy Aviation. The PLAAF and PLAN Aviation continued to improve their capabilities to conduct offensive and defensive offshore operations such as strike, air and missile defense, strategic mobility, and early warning and reconnaissance missions. Although they currently have limited power projection capability, both the PLAAF and PLAN Aviation are seeking to extend their reach. The PLAAF, in particular, has received repeated calls from its leadership to become a truly "strategic" air force, able to project power at long distances and advance and defend the PRC's global interests.

- The PLAAF is expanding its inventory of refuelable fighters, developing refuelable variants of the H-6 bomber and KJ-500 AEW&C aircraft, and testing a tanker variant of its Y-20 heavy lift transport. Together, these new aircraft will noticeably expand China's ability to conduct long-range offensive air operations.

- Following former PLAAF Commander General Ma Xiaotian's 2016 public statement that China was developing a new generation of long-range bombers, a number of reports suggest the new bomber, likely named the H-20, could debut sometime in the next decade with the following features: a stealthy design, employing many fifth- generation technologies; a likely range of at least 8,500 km; a payload of at least 10 metric tons; and a capability to employ both conventional and nuclear weaponry.

- The construction of new airfields and hangars on outposts in the South China Sea extends the possible operating areas of PLA aviation forces. Future deployments of PLA combat aircraft operating from Spratly Island outposts could feature extended range and/or loiter time over the South China Sea or even reach into the Indian Ocean. China could also replicate its success establishing a naval base in Djibouti to establish overseas logistics facilities that would further extend and sustain regional and global air operations.

- In 2019, the PLAAF participated in several joint multinational training exercises, as well as its first coordinated bomber flight with Russia on July 23, 2019, which PRC state media described as a 'joint strategic air navigation" and was intended to improve coordination and message on strategic stability. During the flight, PLAAF H-6K bombers flew in formation with Russian Tu-95 bombers between Korea and Japan, prompting multiple intercepts from Japanese and South Korean military aircraft. The PRC continued their trend of foreign military competitions and deployed

PLAAF aircraft to AVIADARTS 2019 in Russia. However, the PLAAF also sent H-6K bombers for the first time to TSENTR 19, Russia's strategic military exercise.

> In April 2019, Beijing announced that China and Russia would hold their third computer simulated combined missile defense exercise in Russia, but it is unclear whether this drill happened. China and Russia previously conducted similar exercises in 2016 and 2017.

PLA Rocket Force (PLARF). The PLARF fields multiple missiles capable of strikes within and beyond the First Island Chain. Among these are the CSS-5 Mod 5 (DF-21D) ASBM – with a range of 1,500 km – and a MARV to challenge BMD systems. China also deploys the land-attack CSS-5 Mod 4 (DF-21C) and the ground-launched CH-SSC-9 (CJ-10) LACM, placing infrastructure on Okinawa and the main Japanese islands at risk. The DF-26 IRBM has a maximum range of 4,000 km and is capable of precision strikes against ground and ship targets, potentially threatening U.S. land and sea-based forces as far away as Guam.

PLA Strategic Support Force (SSF). The SFF's strategic space, cyber, and psychological warfare capabilities and missions are not bound by geographic constraints and can be used independently or to enable and support PLA global power projection operations. China continues to develop a variety counterspace capabilities designed to limit or prevent an adversary's use of space-based assets during crisis or conflict. In addition to the development of directed-energy weapons and satellite jammers, the PLA has an operational ground-based anti-satellite (ASAT) missile intended to target low-Earth orbit satellites, and China probably intends to pursue additional ASAT weapons capable of destroying satellites up to geosynchronous Earth orbit.

ADVANCING TOWARD AN INFORMATIZED MILITARY

Key Takeaways

> Chairman Xi Jinping has called for the PLA to create a highly informatized force capable of dominating all networks and expanding the country's security and development interests.

> The PLA considers information operations (IO) as a means of achieving information dominance early in a conflict, and continues to expand the scope and frequency of IO in military exercises.

> The PRC presents a significant, persistent cyber espionage and attack threat to an adversary's military and critical infrastructure systems.

Chairman Xi Jinping has called for the PLA to create a highly informatized force capable of dominating all networks and expanding the country's security and development interests. Chinese

military writings describe informatized warfare as the use of information technology to create an operational system-of-systems, which would enable the PLA to acquire, transmit, process, and use information during a conflict to conduct joint military operations across the ground, maritime, air, space, cyberspace, and electromagnetic spectrum domains. Ongoing military reforms are accelerating the incorporation of command information systems enabling forces and commanders to carry out missions and tasks more effectively to win informatized local wars. The PLA continues to expand the scope and regularity of military exercises simulating informatized operations and likely views conventional and cyberspace operations as a means of achieving information dominance early in a contingency or conflict.

Command, Control, Communications, Computers, and Intelligence (C4I). China continues to prioritize C4I modernization as a response to trends in modern warfare that emphasize the importance of rapid information sharing, processing, and decision-making. The PLA seeks to modernize itself, both technologically and organizationally, to command complex, joint operations.

The PLA sees networked, technologically advanced C4I systems as essential to provide reliable, secure communications to fixed and mobile command posts, thereby enabling rapid, effective, multi-echelon decision-making. These systems were designed to distribute data including intelligence, battlefield information, logistical information, and weather reports via redundant, resilient communications networks to improve commanders' situational awareness. The PLA views making near-real-time ISR data available to field commanders as especially valuable in streamlining their decision processes. China is fielding the Integrated Command Platform to units at multiple levels across the force to enable lateral and cross-service communications required for joint operations. Digital databases and command automation tools allow commanders to simultaneously issue orders to multiple units while on the move and they enable units to quickly adapt their actions to shifting conditions in the battlespace.

These technical improvements are notably boosting PLA operational flexibility and responsiveness. As the PLA continues to focus on its ability to fight and win informatized wars, future information systems will likely implement emerging technologies such as big data, the internet of things, artificial intelligence (AI), and cloud computing to provide reliable, automated platforms yielding further process efficiencies. The PLA has already begun this process by embracing big data analytics that fuse a variety of data to improve automation and to create a comprehensive, real-time picture.

Electronic Warfare. The PLA considers EW an integral component of modern warfare. China's EW strategy emphasizes suppressing, degrading, disrupting, or deceiving enemy electronic equipment. Potential EW targets include adversary systems operating in radio, radar, microwave, infrared and optical frequency ranges, as well as adversary computer and information systems. PLA EW units

routinely train to conduct jamming and anti-jamming operations against multiple communication and radar systems and Global Positioning System (GPS) satellite systems in force-on- force exercises. These exercises test operational units' understanding of EW weapons, equipment, and performance but they also enable operators to improve confidence in their ability to operate effectively in a complex electromagnetic environment. In addition, the PLA reportedly tests and validates advances in EW weapons R&D during these exercises.

Cyberwarfare. The development of cyberwarfare capabilities is consistent with PLA writings, which identify IO – comprising cyber, electronic, and psychological warfare – as integral to achieving information superiority and as an effective means for countering a stronger foe. China has publicly identified cyberspace as a critical domain for national security and declared its intent to expedite the development of its cyber forces.

The PRC presents a significant, persistent cyber espionage and attack threat to military and critical infrastructure systems. China seeks to create disruptive and destructive effects—from denial-of-service attacks to physical disruptions of critical infrastructure— to shape decision-making and disrupt military operations in the initial stages of a conflict by targeting and exploiting perceived weaknesses of militarily superior adversaries. China is improving its cyberattack capabilities and has the ability to launch cyberattacks—such as disruption of a natural gas pipeline for days to weeks—in the United States.

PLA writings note the effectiveness of IO and cyberwarfare in recent conflicts and advocate targeting C2 and logistics networks to affect an adversary's ability to operate during the early stages of conflict. Authoritative PLA sources call for the coordinated employment of space, cyber, and EW as strategic weapons to "paralyze the enemy's operational system of systems" and "sabotage the enemy's war command system of systems" early in a conflict. Increasingly, the PLA considers cyber capabilities a critical component in its overall integrated strategic deterrence posture, alongside space and nuclear deterrence. PLA studies discuss using warning or demonstration strikes—strikes against select military, political, and economic targets with clear "awing effects"—as part of deterrence. Accordingly, the PLA probably seeks to use its cyberwarfare capabilities to collect data for intelligence and cyberattack purposes; to constrain an adversary's actions by targeting network-based logistics, C2, communications, commercial activities, and civilian and defense critical infrastructure; or, to serve as a force-multiplier when coupled with kinetic attacks during armed conflict.

The PLA's ongoing structural reforms may further change how the PLA organizes and commands IO, particularly as the SSF evolves over time. By consolidating cyber and other IO-related elements,

the SSF likely is generating synergies by combining national-level cyber reconnaissance, attack, and defense capabilities in its organization.

Activities Directed Against the U.S. Department of Defense (DoD)

PRC-based intrusions continued to target computer systems around the world including those owned by the U.S. Government through 2019. These and past intrusions focus on accessing networks and extracting information. China uses its cyber capabilities to not only support intelligence collection against U.S. diplomatic, economic, academic, and defense industrial base sectors, but also to exfiltrate sensitive information from the defense industrial base to gain military advantage. The targeted information can benefit China's defense high-technology industries, support China's military modernization, provide the CCP insights into U.S. leadership perspectives, and enable diplomatic negotiations, such as those supporting the One Belt, One Road initiative (OBOR). Additionally, targeted information could enable PLA cyber forces to build an operational picture of U.S. defense networks, military disposition, logistics, and related military capabilities that could be exploited prior to or during a crisis. The accesses and skills required for these intrusions are similar to those necessary to conduct cyber operations in an attempt to deter, delay, disrupt, and degrade DoD operations prior to or during a conflict. In aggregate, these cyber-enabled campaigns threaten to erode U.S. military advantages and imperil the infrastructure and prosperity on which those advantages rely.

NUCLEAR DETERRENCE

Key Takeaways

- The PRC's strategic ambitions, evolving view of the security landscape, and concerns over survivability are driving significant changes to the size, capabilities, and readiness of its nuclear forces.
- China's nuclear weapons policy prioritizes the maintenance of a survivable nuclear force that can retaliate against an adversary's first strike.
- China has long maintained a "no first use" (NFU) policy, although there is ambiguity over the conditions under which China would act outside of its NFU policy.
- China's nuclear forces will significantly evolve over the next decade as it modernizes, diversifies, and increases the number of its land-, sea-, and air-based nuclear delivery platforms.
- Over the next decade, China's nuclear warhead stockpile—currently estimated to be in the low-200s—is projected to at least double in size as China expands and modernizes its nuclear forces.
- China is pursuing a "nuclear triad" with the development of a nuclear capable air-launched ballistic missile (ALBM) and improving its ground and sea-based nuclear capabilities.
- New developments in 2019 further suggest that China intends to increase the peacetime readiness of its nuclear forces by moving to a launch-on-warning (LOW) posture with an expanded silo-based force.

The PRC's nuclear weapons policy prioritizes the maintenance of a nuclear force able to survive a first strike and respond with sufficient strength to inflict unacceptable damage on an enemy. China is enhancing peacetime readiness levels for these nuclear forces to ensure their responsiveness. In addition, China insists its new generation of mobile missiles, with warheads consisting of MIRVs and penetration aids, are intended to ensure the viability of its strategic nuclear forces in the face of continued advances in U.S. and, to a lesser extent, Russian strategic ISR, precision strike, and missile defense capabilities. India also plays a factor in China's nuclear threat perceptions.

Over the next decade, China's nuclear warhead stockpile—currently estimated to be in the low-200s—is projected to at least double in size as China expands and modernizes its nuclear forces. The anticipated changes to the capacity, capability, and readiness of China's nuclear forces in the coming years seem likely to outpace potential developments by any adversary that could plausibly threaten

China's ability to retaliate against a first strike. These developments and China's lack of transparency raise concerns that China is not only shifting its requirements for what constitutes a minimal deterrent, but that it could shift away from its longstanding minimalist force posture.

No First Use Policy. China has long maintained an NFU policy, stating that it would use nuclear forces only in response to a nuclear strike against China. China's NFU pledge consists of two stated commitments: China will never use nuclear weapons first at any time nor under any circumstances, and China unconditionally undertakes not to use or threaten to use nuclear weapons against any non-nuclear-weapon state or in nuclear-weapon-free zones.

There is some ambiguity, however, in the narrative in China over the conditions under which China's NFU policy would no longer apply. Some PLA officers have written publicly of the need to spell out conditions under which China might need to use nuclear weapons first; for example, if an enemy's conventional attack threatened the survival of China's nuclear force or of the regime itself. There has been no indication that national leaders are willing to attach such nuances and caveats publicly to China's existing NFU policy as affirmed by recent statements by the PRC Foreign Ministry. China's lack of transparency regarding the scope and scale of its nuclear modernization program, however, raises questions regarding its future intent as it fields larger, more capable nuclear forces.

Land-Based Platforms. China's nuclear arsenal currently consists of approximately 100 ICBMs, including the silo-based CSS-4 Mod 2 (DF-5A) and Mod 3 (DF-5B); the solid-fueled, road-mobile CSS-10-class (DF-31, DF-31A and DF-31AG); and the more limited range roll-out-to-launch CSS-3 (DF-4). This strategic arsenal is complemented by road-mobile, solid-fueled CSS-5 Mod 2 and Mod 6 (DF-21) MRBMs and DF-26 IRBMs capable of ranging targets in the Indo-Pacific region. Media reports suggest that China may be developing a DF-5C and DF-31B ICBM with the DF-41 (CSS-X-20) ICBM fielding possible in the near term.

Sea-based Platforms. China has constructed six Jin class SSBNs, with four operational and two outfitting at Huludao Shipyard. China's Jin SSBNs, which are equipped to carry up to 12 CSS-N-14 (JL-2) SLBMs, are the country's first viable sea-based nuclear deterrent. China's next-generation Type 096 SSBN reportedly will be armed with a follow-on SLBM, and it will likely begin construction in the early- 2020s. Based on the 40-plus-year service life of China's first generation SSNs, China will operate its Jin and Type 096 SSBN fleets concurrently. The current range limitations of the JL-2 will require the Jin class SSBNs to operate in areas north and east of Hawaii if China seeks to target the east coast of the United States. As China fields newer, more capable, and longer ranged SLBMs such as the JL-3, the PLAN will gain the ability to target the United States from littoral waters.

Air Platforms. The PLAAF publicly revealed the H-6N as a long-range strategic bomber during the 70th anniversary parade in October 2019. The most significant improvements of the H-6N versus legacy H-6 bombers is the addition of its air-to-air refueling probe, as well as its recessed fuselage modifications that would allow for external carriage of an ALBM believed to be nuclear capable.

Future Developments. Over the next decade, China will expand and diversify its nuclear forces, likely at least doubling its nuclear warhead stockpile. China probably intends to develop new nuclear warheads and delivery platforms that at least equal the effectiveness, reliability, and/or survivability of some of the warheads and delivery platforms currently under development by the United States and Russia.

Currently, China probably maintains an operational nuclear warhead stockpile in the low-200s. China probably has enough nuclear materials to at least double its warhead stockpile without new fissile material production.

China justifies its development of a range of technologies for its nuclear forces—including MARV, MIRVs, decoys, chaff, jamming, thermal shielding, and hypersonic glide vehicles—as necessary to counter U.S. and other countries' BMD, ISR, and precision strike systems. China is working to field nuclear theater-range, precision-strike systems.

China maintains nuclear-capable delivery systems in the PLARF and PLAN, and the PLAAF has been reassigned a nuclear mission. To date, PRC officials have identified both the H-6N bomber and China's future strategic stealth bomber as dual-capable delivery platforms. The PLA is upgrading its aircraft with two new ALBMs, one of which may include a nuclear payload. Its deployment and integration would provide China for the first time with a viable nuclear triad of delivery systems dispersed across land, sea, and air forces.

China maintained a high level of activity at its Lop Nur nuclear weapons test site throughout 2019, according to the U.S. Department of State's April 2020 *Executive Summary of Findings on Adherence to and Compliance with Arms Control, Nonproliferation, and Disarmament Agreements and Commitments*. The executive summary states, "China's possible preparation to operate its Lop Nur test site year-round, its use of explosive containment chambers, extensive excavation activities at Lop Nur, and lack of transparency on its nuclear testing activities – which has included frequently blocking the flow of data from its International Monitoring System (IMS) stations to the International Data Center operated by the Preparatory Commission for the Comprehensive Nuclear Test-Ban Treaty Organization – raise concerns regarding its adherence to the 'zero yield' standard adhered to by the United States, United Kingdom, and France in their respective nuclear weapons testing moratoria."

The PRC has not clarified how its strategic forces will evolve commensurate with its objective of having a "world-class" military or if China's goal of becoming a "great modern socialist country" will alter its nuclear deterrence requirements. In its 2019 defense white paper, China reiterated its longstanding position that it "…keeps its nuclear capabilities at the minimum level required for national security." However, China's nuclear forces appear to be on a trajectory to exceed the size of a "minimum deterrent" as described in the PLA's own writings as a small quantity of nuclear weapons to strike enemy urban targets. China's evolving posture is more consistent with what PLA writings describe as a "limited deterrent"—a posture that the PLA describes as between a minimum and maximum deterrent.

Lower-yield Nuclear Weapons. PRC strategists have highlighted the need for lower-yield nuclear weapons in order to increase the deterrence value of China's nuclear force without defining specific nuclear yield values. A 2017 defense industry publication indicated a lower-yield weapon had been developed for use against campaign and tactical targets that would reduce collateral damage. The DF-26 is China's first nuclear-capable missile system that can conduct precision strikes, and therefore, is the most likely weapon system to field a lower-yield warhead in the near-term.

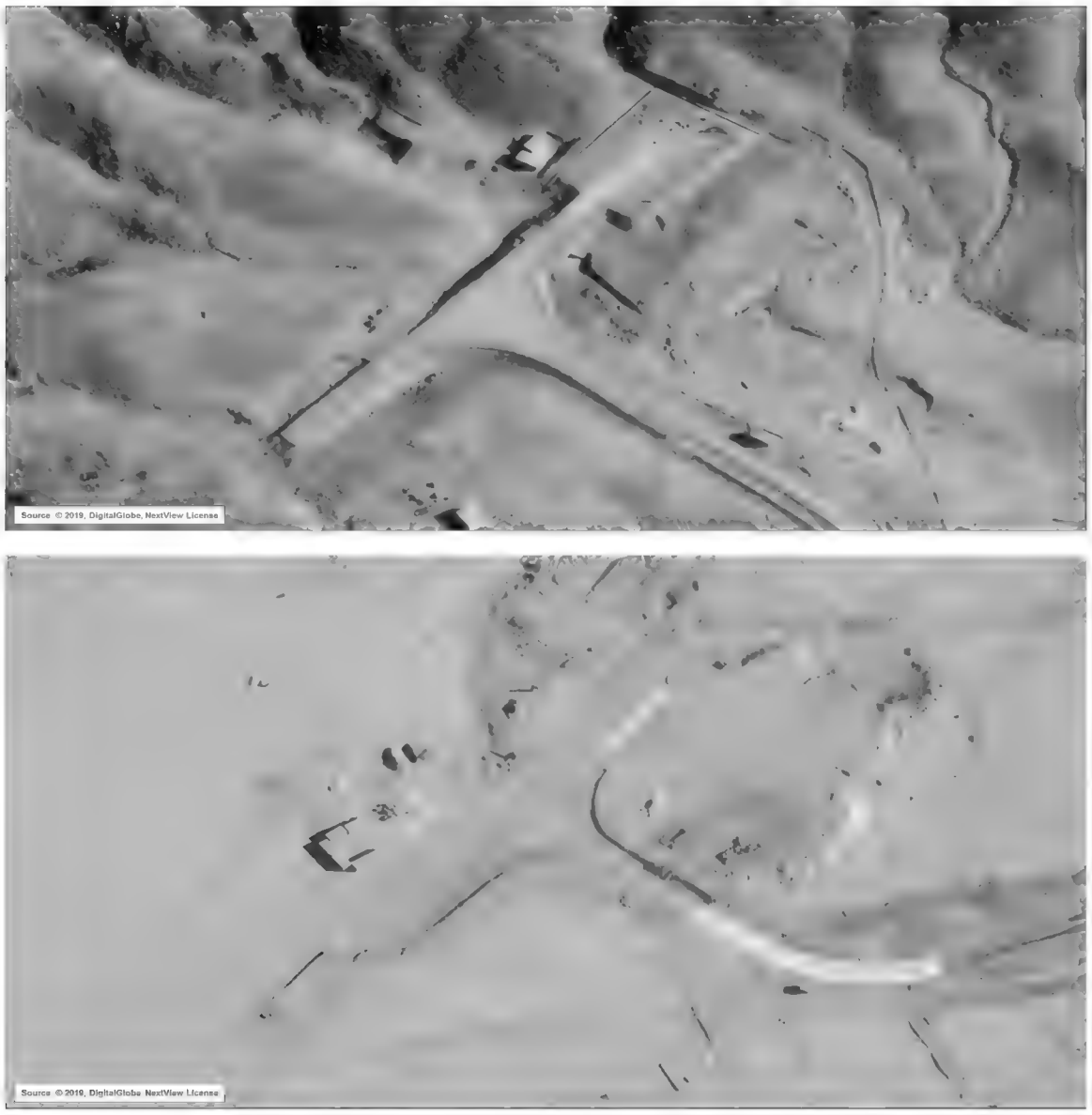
Readiness. Although China almost certainly keeps the majority of its nuclear force on a peacetime status—with separated launchers, missiles, and warheads—nuclear and conventional PLARF brigades conduct "combat readiness duty" and "high alert duty" which apparently includes assigning a missile battalion to be ready to launch, and rotating to standby positions as much as monthly for unspecified periods of time. Authoritative PLA text books on strategy state "high alert duty" is valuable for the defender in a nuclear war, recommending the PLARF adopt a high alert posture conceptually comparable to the claimed high alert posture kept by portions of U.S. and Russian nuclear forces, and that such a posture is compatible with the PRC's active defense concept, NFU policy, and post-strike response approach.

Launch on Warning (LOW). Increasing evidence emerged in 2019 indicates that China seeks to keep at least a portion of its force on a LOW posture. This includes further investment in silo-based forces—while building more survivable mobile platforms—that China has previously assessed as having low survivability in the absence of a force-wide LOW posture and new developments in its early warning capabilities.

The PRC's 2015 defense white paper identified "improved strategic early warning, command and control…and rapid reaction," as specific nuclear force modernization goals. In 2015 and 2016, PRC official state media reported that some of its ICBM force was conducting alerts, including the DF-31A ICBM. It is unclear from these reports what such alerts entailed.

Commercial imagery from 2019 has revealed that China has constructed an ICBM silo at one of the PLARF's Western training ranges that is smaller than China's existing CSS-4 (DF-5) silos. According to state media, the CSS-X-20 (DF-41) ICBM can be launched from silos; this site is probably being used to at least develop a concept of operations for silo basing this system. There are also some indications that China may be building new CSS-4 (DF-5) ICBM silos.

China is working to develop a space-based early warning capability that could support this posture in the future. In October 2019, Russia announced plans to assist China in developing their missile-attack early warning network, including aiding the development of ground-based radars and potentially extending to space-based sensors. China already has several ground-based large phase array radars – similar in appearance to U.S. PAVE PAWS radars – that could support a missile early warning role.



These images show that new silos, having first been identified in fall 2019 by a non-governmental organization's commercial imagery, appear externally complete. Their size precludes use by the DF-5 and may support concept development for a silo-based DF-41 or one of China's smaller ICBMs. When taken with China's past concerns about silo survivability and ongoing strategic early warning developments, these new silos provide further evidence China is moving to a LOW posture.

PLA Underground Facilities

The PLA continues to maintain a robust and technologically advanced underground facility (UGF) program to protect all aspects of its military forces, including C2, logistics, missile systems, and naval forces. China has thousands of UGFs and it continues to construct more each year. The PLA utilizes these UGFs to protect valuable assets from the effects of missile strikes and to conceal military operations from adversaries. China's NFU policy also contributed to the construction of UGFs for the country's nuclear forces, which may have planned to survive an initial nuclear first strike by an adversary.

China began to update and expand its military UGF program in the mid- to late-1980s. This modernization effort took on renewed urgency following China's observation of U.S. and Coalition air operations during the 1991 Gulf War and their use in Operation ALLIED FORCE. These military campaigns convinced China it needs to build more survivable, deeply buried facilities to protect military assets from the effects of penetrating conventional munition and nuclear strikes. China will likely continue to develop and expand its UGF program to support its expanding forces.

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FORCES, CAPABILITIES, AND ACTIVITIES ON CHINA'S PERIPHERY

Key Takeaways

- China continues to implement reforms associated with the establishment of the Eastern, Southern, Western, Northern, and Central Theater Commands, which are organized based on China's perception of peripheral threats.
- Under the direction of the Central Military Commission (CMC), each Theater Command has authority over the services and conventional forces within the theater.

China continues to implement reforms associated with the establishment of five theater commands in early 2016. The Eastern, Southern, Western, Northern and Central Theater Commands replaced seven army-based military regions and are now the highest-ranking joint operations command organizations within their respective geographical areas. Each theater command receives direction from the CMC and has operational authority over most PLA conventional forces within its theater. The theater commands are also responsible for all non-nuclear combat and non-combat operations within their area of responsibility. Theater commands are also responsible for developing theater-specific command strategies aimed at preparing to fight and win against adversaries, developing joint operational plans, assessing military capability requirements for the forces in their theaters, responding to crises, and safeguarding the sovereignty and stability of their theaters. The PRC's threat perceptions shape the strategic directions for the theater commands, with levels of emphasis and specific missions and tasks varying:

- **Eastern Theater Command** – Taiwan, Japan, East China Sea;
- **Southern Theater Command** – South China Sea, Southeast Asia;
- **Western Theater Command** – India, South Asia, Central Asia, "counterterrorism" in Xinjiang and Tibet;
- **Northern Theater Command** – Korean Peninsula, Russia;
- **Central Theater Command** – Capital defense; surge support to other theaters.

EASTERN THEATER COMMAND

Key Takeaway

> The Eastern Theater Command is oriented toward Taiwan and the East China Sea.

The Eastern Theater Command likely executes operational control over national defense matters related to Taiwan and Japan, including contingencies in and around the Taiwan Strait and the Senkaku Islands. In 2019, the Eastern Theater Command focused on a series of training and exercises to improve joint operations and combat readiness, organizing exercises and drills consisting of long-distance training and mobilization, aerial combat, and live-fire training. PLA units located within the Eastern Theater Command include three group armies, a naval fleet, two marine brigades, two Air Force bases, and one missile base. The Eastern Theater Command also likely commands all China Coast Guard (CCG) and maritime militia ships while conducting Senkakus-related operations.

> In April 2019, the Eastern Theater Command JOCC commanded joint training east of Taiwan, which they asserted was to train for joint fire and maritime strike. The training included bombers, fighters, electronic jamming and intelligence, surveillance, and reconnaissance (ISR) aircraft circumnavigating Taiwan while naval combatants trained for mock strikes and helicopters delivered an amphibious landing force. In March, two J-11 fighters crossed the unofficial median line of the Taiwan Strait, for the first time since 1999. The Eastern Theater Command also likely played a significant role in a nationwide exercise across all five theater commands based on the locations of some of the exercise activity near Taiwan.

> As of March 2019, the PLA Air Force (PLAAF) assigned its first fifth generation J-20s to an operational unit, a fighter brigade in the Eastern Theater Command, probably to improve its ability to respond to U.S. and allied aircraft in the area. In March 2019, a likely Eastern Theater Y-8Q anti-submarine warfare (ASW) aircraft was also first observed operating in the East China Sea by Japan.

DEVELOPMENTS IN THE SECURITY SITUATION IN THE TAIWAN STRAIT

Key Takeaways

- Relations between the PRC and Taiwan remained tense through 2019.
- The PLA continued Taiwan Strait contingency preparations.

Relations between the PRC and Taiwan remained at an impasse through 2019. Since the 2016 election of Tsai Ing-wen as Taiwan's president, China halted formal communication with Taiwan and has repeatedly stressed that Taiwan must accept the "1992 Consensus" to restart formal engagement. Since November 2016, China's leaders have directly equated the "1992 Consensus" to "one China," which was reaffirmed by President Xi in a January 2019 address to "compatriots" in Taiwan. Taiwan President Tsai Ing-wen has continually pledged to maintain the status quo in cross-Strait relations and called for China to respect Taiwan's democracy and agree to negotiations without preconditions.

The PRC also maintained its diplomatic pressure on Taiwan, thwarting Taiwan's efforts to participate in international organizations such as the World Health Organization, International Civil Aviation Organization, and INTERPOL. In 2019, the PRC convinced the Solomon Islands and Kiribati to break diplomatic relations with Taiwan. Despite the stalled consultations with the ruling Democratic Progressive Party (DPP), the Chinese Communist Party (CCP) continues to engage with Taiwan's Kuomintang (KMT) party, and the PRC continues to hold lower-level cross-Strait exchanges such as the municipal Shanghai-Taipei Twin City Forum.

The PLA continues to prepare for contingencies in the Taiwan Strait to deter, and if necessary, compel Taiwan to abandon moves toward independence. The PLA also is likely preparing for a contingency to unify Taiwan with the mainland by force, while simultaneously deterring, delaying, or denying any third-party intervention on Taiwan's behalf. As part of a comprehensive campaign to pressure Taiwan and the Tsai Administration, China has increased military exercises in the vicinity of Taiwan, including circumnavigation flights by the PLAAF and naval exercises in the East China Sea.

Taiwan's national defense report released in 2017 cited concerns that increased PLA military activity near Taiwan poses an "enormous threat to security in the Taiwan Strait," and that Taiwan requires a "multiple deterrence strategy," including an emphasis on developing asymmetric warfare to counter PLA advances.

EAST CHINA SEA

Key Takeaway

> China continues to use maritime law enforcement ships and aircraft to patrol near the Japan-administered Senkaku Islands.

China claims sovereignty over the Japanese-administered Senkaku Islands in the East China Sea, which Taiwan also claims. The United States does not take a position on sovereignty of the Senkaku Islands but recognizes Japan's administration of the islands and continues to reaffirm that the islands fall within the scope of Article 5 of the U.S.-Japan Mutual Security Treaty. In addition, the United States opposes any unilateral actions that seek to undermine Japan's administration of the islands. China uses maritime law enforcement ships and aircraft to patrol near the islands. During 2019, China typically maintained a presence in the Senkaku Islands with four CCG ships, which enter the waters within 12 nm of the islands. The CCG conducted its longest-ever patrol, 64 days, in the Senkaku Islands contiguous zone in 2019, and entered Japanese territorial waters in the Tsugaru Strait.

Separately, the PLA Navy (PLAN) frequently advances into the Pacific Ocean by passing between Japan's Okinawa and Miyako Islands. The Eastern Theater Navy regularly conducts military exercises in the Sea of Japan to prepare for potential conflicts.

Eastern Theater

SOUTHERN THEATER COMMAND

Key Takeaway

> The Southern Theater Command is oriented toward the South China Sea, Southeast Asia border security, and territorial and maritime disputes.

The area of responsibility of the Southern Theater Command covers mainland and maritime Southeast Asia, including the South China Sea. This geographic area implies that the Southern Theater Command is responsible for securing the South China Sea, supporting the Eastern Theater Command in any invasion of Taiwan, responding to territorial disputes, and assuring the security of sea lines of communication (SLOCs) seen as vital to China's global ambitions. PLA units located within the Southern Theater Command are two group armies, a naval fleet, two marine brigades, two Air Force bases, and two Rocket Force bases. The Southern Theater Command is responsible for responding to U.S. freedom of navigation operations in the South China Sea, and likely commands all CCG and maritime militia ships conducting operations within China's claimed "nine-dash line."

> The Southern Theater Command is responsible for training, force disposition, and operations in the South China Sea. In 2019, Southern Theater Command units conducted multiple live-fire drills and amphibious training events near PRC-occupied features in the South China Sea. The Southern Theater Command also plays a significant role in the PLA's bilateral and multilateral exercises with countries in Southeast Asia, participating in counterterrorism and naval exercises in 2019.

> The Southern Theater Command commands the PLA Hong Kong and Macao garrisons. In August 2019, the PLA Hong Kong and Macao garrisons conducted an annual rotation of forces. In Hong Kong, PLA and probable People's Armed Police (PAP) forces deployed into Hong Kong by land, air, and sea from Shenzhen at night, however, no forces were observed rotating out of Hong Kong. The PRC's troop rotation announcement in 2019 did not include a statement that PLA troop and equipment levels remain unchanged. Throughout the months of protests, PAP and PLA units have been publicly highlighting their anti-riot, counterterrorism, and disaster prevention training.

> All the PLA's 24 Su-35s purchased from Russia are assigned to the Southern Theater Command Air Force, and have flown patrols in the South China Sea and into the Western Pacific. The Southern Theater Command was the first command to receive the PLAN's H-6J maritime strike bombers. China's first-domestically produced aircraft carrier arrived in the Southern Theater Command at Yulin Naval Base, very likely its operational base, in November 2019 with embarked J-15s.

SOUTH CHINA SEA

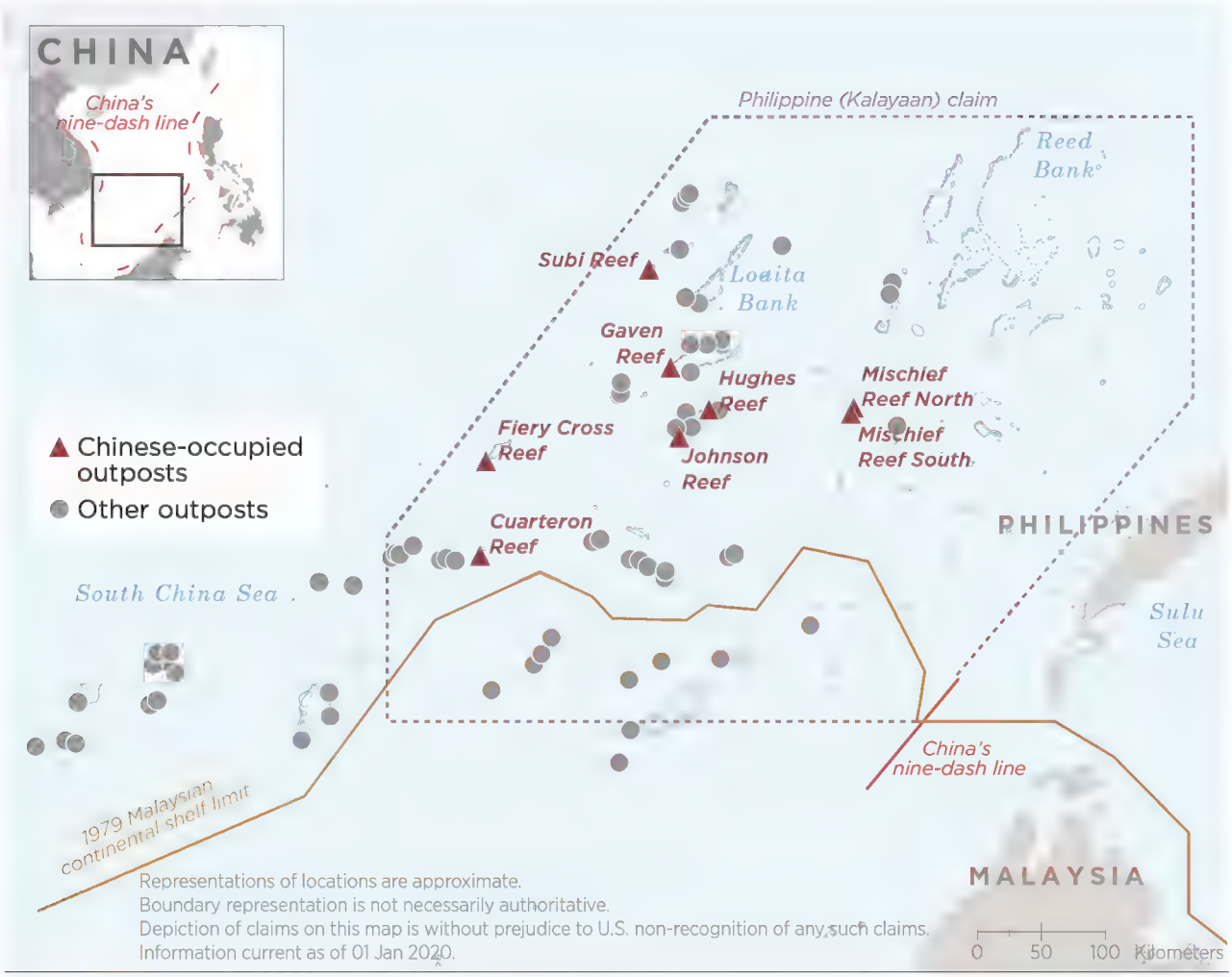
Key Takeaways

- In 2019, China did not resume South China Sea land reclamation or major military infrastructure construction at its seven Spratly Islands outposts.
- China's outposts are capable of supporting military operations and include advanced weapon systems; however, no large-scale air presence has been yet observed in the Spratly Islands.
- In 2019, China deployed PLAN, CCG, and civilian ships in response to Vietnamese and Malaysian drilling operations within China's claimed "nine-dash-line" and construction by the Philippines at Thitu Island.

Developments in the Security Situation. In July 2016, an arbitral tribunal convened pursuant to provisions in the 1982 Law of the Sea Convention ruled in a case brought by the Philippines that China's claims to "historic rights" in the South China Sea within the area depicted by the "nine-dash line" could not exceed its maritime rights or entitlements as specifically provided in relevant provisions of the Law of the Sea Convention. Despite the decision, the PRC continues to use coercive tactics, including the employment of PLA naval and paramilitary vessels, to enforce its claims and advance its interests. China does so in ways calculated to remain below the threshold of provoking conflict. China has deployed anti-ship cruise missiles (ASCMs) and long-range surface-to-air missiles (SAMs) to the Spratly Islands, and fighters and SAMs to the disputed Paracel Islands.

- China states that international military presence within the South China Sea is a challenge to its sovereignty. China continues to employ coercive tactics to enforce its claims. In 2019, China deployed PLAN, CCG, and civilian ships in response to Vietnamese and Malaysian drilling operations within China's claimed "nine-dash line" and construction by the Philippines at Thitu Island.
- In July 2019, China and Association of Southeast Asian Nations (ASEAN) members completed the first reading of the China-ASEAN Code of Conduct, with a second and third reading remaining before China and ASEAN members finalize the agreement. China and ASEAN member states seek to complete negotiations by 2021. The negotiations are unlikely to produce substantive outcomes because China and some South China Sea claimants are probably sensitive to diplomatic language that limits their activities and a requirement for ASEAN consensus.

Outposts in the Spratly Islands



Outposts Capable of Supporting Military Operations. Since early 2018, PRC-occupied Spratly Island outposts have been equipped with advanced anti-ship and anti-aircraft missile systems and military jamming equipment, marking the most capable land-based weapons systems deployed by any claimant in the disputed South China Sea to date. From early 2018 to late 2019, China regularly utilized its Spratly Islands outposts to support naval and coast guard operations in the South China Sea.

The PRC completed military infrastructure on its three larger outposts in the Spratly Islands at Fiery Cross, Subi, and Mischief Reefs by early 2018, including aviation facilities, port facilities, fixed-weapons positions, barracks, administration buildings, and communications facilities; and shore-based

infrastructure on its four smaller outposts in the Spratly Islands—Johnson, Gaven, Hughes, and Cuarteron Reefs—by early 2016, including administrative buildings, weapons stations, and sensor emplacements.

No substantial land has been reclaimed at any of the outposts since the PRC completed its extensive artificial manipulation in the Spratly Islands in late 2015, after adding more than 3,200 acres of land to the seven features it occupies in the Spratlys.

China has stated these projects are mainly to improve marine research, safety of navigation, and the living and working conditions of personnel stationed on the outposts. However, the outposts provide airfields, berthing areas, and resupply facilities that allow China to maintain a more flexible and persistent military and paramilitary presence in the area. This improves China's ability to detect and challenge activities by rival claimants or third parties and widens the range of response options available to China.

Southern Theater

WESTERN THEATER COMMAND

Key Takeaway

> The Western Theater Command is oriented towards India and "counterterrorism" missions along the PRC's western borders.

The Western Theater Command is geographically the largest theater command within China and is likely responsible for responding to conflict with India and terrorist and insurgent threats to and within western China. PLA units located within the Western Theater Command include two group armies, other Army units under the region's two military districts (Xinjiang and Tibet), three Air Force bases, and one Rocket Force base. PAP units responsible for Xinjiang operations are also likely under the control of the Western Theater Command.

Within China, the Western Theater Command focuses on the Xinjiang and Tibet Autonomous Regions where the CPP perceives a high threat of separatism and terrorism, particularly among Uyghur populations. According to the U.S. Department of State's *2019 Country Reports on Human Rights Practices*, the PRC in 2019 "continued its campaign of mass detention of members of Muslim minority groups in the Xinjiang Uygur Autonomous Region (Xinjiang). Authorities were reportedly to have arbitrarily detained more than one million Uyghurs, ethnic Kazakhs, Kyrgyz, and other Muslims in extrajudicial internment camps designed to erase religious and ethnic identities. Chinese government officials justified the camps under the pretense of combatting terrorism, separatism, and extremism."

CHINA-INDIA BORDER

Key Takeaways

> In 2019, officials from the PRC and India continued regular meetings regarding their disputed border, while low-level face-offs persisted between Chinese and Indian military personnel.

> Chinese and Indian forces both continued construction and patrols in contested regions along the disputed border, but generally kept tensions from escalating in 2019.

Chinese and Indian patrols regularly encountered one another along their disputed border, and both sides often accuse each other of border incursions. Despite low-level face-offs among troops in 2019, China and India prevented these incidents from escalating to the level of the 73-day border standoff at the Doklam Plateau in 2017. In 2019, Chinese and Indian forces engaged in regular border meetings to discuss disputes. Meanwhile, Chinese and Indian officials continued diplomatic discussions on border issues.

- In October 2019, President Xi Jinping met with Prime Minister Narendra Modi in Chennai, India to discuss economic relations and the importance of the peaceful resolution of contentious issues, particularly regarding the border. This meeting was the second summit between Xi and Modi, the first of which occurred in April 2018 following the 2017 Doklam standoff.
- In August 2019, China submitted "early harvest" proposals regarding China-India border issues to India, which was the first time that China had approached India with resolution proposals. Although India was not pleased with the proposals, the 22nd meeting of the Special Representatives of India and China occurred in December 2019 and reinforced both sides' shared intent to manage tensions in the border region.

Western Theater

NORTHERN THEATER COMMAND

Key Takeaway

> The Northern Theater Command is oriented toward the Korean Peninsula and Russian border security.

The area of responsibility of the Northern Theater Command includes the majority of China's borders with Mongolia and Russia, North Korea, and the Yellow Sea. The Northern Theater is responsible for operations along China's northern periphery and conducting border stability operations associated with a North Korean contingency and northern border contingencies involving Mongolia or Russia. PLA units located within the Northern Theater Command are three group armies, a naval fleet, two marine brigades, two air bases, and one PLARF base. The Northern Theater Navy would be responsible primarily for protecting the sea approaches to northern China, but could provide mission-critical assets to support other fleets. In 2019, the Northern Theater Command Navy carried out a comprehensive anti-submarine drill and a long-range air defense maneuver exercise. The Northern Theater Air Force also executed a combat-readiness drill, conducting day and nighttime patrols.

RELATIONS WITH NORTH KOREA

Key Takeaways

> China's strained relationship with North Korea appeared to warm somewhat in 2019.

> The PLA continued to conduct military exercises in preparation for a contingency on the Korean Peninsula.

The PRC's relationship with North Korea appeared to warm somewhat following a period tensions after China increased implementation of UN Security Council resolutions in 2017. China largely continues to enforce a number of the UN Security Council's resolution sanctions against North Korea, but Beijing regularly fails to act against illicit ship-to-ship transfers in China's territorial seas, take action against China-based North Korean banking and weapons trade representatives and their activities, and continues to import coal—albeit at lower volumes—via Chinese barges and ship-to-ship transfers. In 2019, President Xi Jinping met twice with Kim Jong-un, complementing numerous lower-level official exchanges in both North Korea and China. China and North Korea restarted high-level military diplomacy, which included North Korean participation in the PLA Navy's (PLAN's) international fleet review and several meetings between military officials. These engagements include a high-level

visit by the director of the General Political Bureau of the Korean People's Army Kim Su-gil with CMC

Vice Chairman Zhang Youxia in Beijing. China's objectives for the Korean Peninsula include stability, denuclearization, and the absence of U.S. forces near China's border. China's focus on maintaining stability on the Korean Peninsula involves preventing North Korea's collapse and military conflict on the Peninsula. Toward these ends, China continues to advocate for a dual-track approach towards North Korea that embraces both dialogue and pressure, and that encourages the resumption of U.S.-North Korea talks.

The PLA conducts military exercises in preparation for a contingency on the Korean Peninsula including air, land, sea, and chemical defense training events. China's leaders could order the Northern Theater Command to engage in a range of operations in the event of a crisis. These could include securing the China-North Korea border to prevent the flow of refugees or a military intervention into North Korea. China could cite the 1961 Treaty of Friendship, Co-operation and Mutual Assistance that it signed with North Korea as a justification to send the PLA into North Korea.

Northern Theater

CENTRAL THEATER COMMAND

Key Takeaway

> The Central Theater Command is oriented toward capital defense and providing surge support to other theaters.

The Central Theater Command is responsible for the defense of the capital, providing security for CCP leadership, and serving as a strategic reserve to the other theater commands. The Central Theater Command's area of responsibility stretches from the Bohai Gulf to the interior of China, connecting the other four theater commands. Units within the Central Theater Command include three group armies, two Air Force bases, and one Rocket Force base. Although the Central Theater Command has coastal responsibilities, it lacks a subordinate naval fleet.

Central Theater

CHINA'S STRATEGY AND CAPABILITIES DEVELOPMENT IN THE TAIWAN STRAIT

Key Takeaways

- Although China advocates for peaceful unification with Taiwan, China has never renounced the use of military force; the circumstances under which China has historically warned it would use force remain ambiguous and have evolved over time.
- China has a range of options for military campaigns against Taiwan, from an air and maritime blockade to a full-scale amphibious invasion to seize and occupy some or all of Taiwan or its offshore islands.

The PRC appears willing to defer the use of military force as long as it considers that unification with Taiwan could be negotiated over the long-term and the costs of conflict outweigh the benefits. China argues that the credible threat of force is essential to maintaining the conditions for political progress and preventing Taiwan from making moves toward independence. In January 2019, President Xi Jinping publicly reiterated China's long-standing refusal to renounce the use of force to resolve the Taiwan issue. In the same speech, Xi also reaffirmed China's longstanding position for peaceful unification under the principle of "one country, two systems."

The circumstances under which the PRC has historically warned it would use force have evolved over time. These circumstances have included:

- Formal declaration of Taiwan independence;
- Undefined moves toward Taiwan independence;
- Internal unrest in Taiwan;
- Taiwan's acquisition of nuclear weapons;
- Indefinite delays in the resumption of cross-Strait dialogue on unification;
- Foreign intervention in Taiwan's internal affairs; and,
- Foreign forces stationed on Taiwan.

Article 8 of China's March 2005 *Anti-Secession Law* states China may use "non-peaceful means" if "secessionist forces . . . cause the fact of Taiwan's secession from China," if "major incidents entailing Taiwan's secession" occur, or if "possibilities for peaceful reunification" are exhausted. China's use of such non-specific conditions increases their policy flexibility through deliberate strategic ambiguity.

China continues to view the Taiwan issue as the most important and sensitive issue between the United States and China.

CHINA'S COURSES OF ACTION AGAINST TAIWAN

The PRC continues to signal its willingness to use military force against Taiwan. The PLA has a range of options to coerce Taipei based on its increasing capabilities in multiple domains. China could pursue a measured approach by signaling its readiness to use force or conduct punitive actions against Taiwan. The PLA could also conduct a more comprehensive campaign designed to force Taiwan to capitulate to unification, or unification dialogue under China's terms. Notably, China would seek to deter potential U.S. intervention in any Taiwan contingency campaign – capabilities that the PRC highlighted during its October 2019 military parade celebrating its 70th anniversary. Failing that, China would attempt to delay and defeat intervention in an asymmetric, limited war of short duration. In the event of a protracted conflict, China might choose to escalate cyberspace, space, or nuclear activities in an attempt to end the conflict, or it might choose to fight to a stalemate and pursue a political settlement. The PLA could initiate the military options listed below individually or in combination.

Air and Maritime Blockade. PLA writings describe a Joint Blockade Campaign in which China would employ kinetic blockades of maritime and air traffic, including a cut-off of Taiwan's vital imports, to force Taiwan's capitulation. Large-scale missile strikes and possible seizures of Taiwan's offshore islands would accompany a Joint Blockade in an attempt to achieve a rapid Taiwan surrender, while at the same time, posturing air and naval forces to conduct weeks or months of blockade operations if necessary. China will also likely complement its air and maritime blockade operations with concurrent electronic warfare (EW), network attacks, and information operations (IO) to further isolate Taiwan's authorities and populace and to control the international narrative of the conflict.

Limited Force or Coercive Options. China could use a variety of disruptive, punitive, or lethal military actions in a limited campaign against Taiwan, probably in conjunction with overt and clandestine economic and political activities supported by a variety of IO to shape perceptions or undercut the effectiveness or legitimacy of the Taiwan authorities. Such a campaign could include computer network or limited kinetic attacks against Taiwan's political, military, and economic infrastructure to induce fear in Taiwan and degrade the Taiwan population's confidence in their leaders. Similarly, PLA special operations forces (SOF) could infiltrate Taiwan and conduct attacks against infrastructure or leadership targets.

Air and Missile Campaign. China could use missile attacks and precision air strikes against air defense systems, including air bases, radar sites, missiles, space assets, and communications facilities to degrade Taiwan's defenses, neutralize Taiwan's leadership, or break the Taiwan people's resolve.

Invasion of Taiwan. Publicly available Chinese writings describe different operational concepts for an amphibious invasion of Taiwan. The most prominent of these, the Joint Island Landing Campaign, envisions a complex operation relying on coordinated, interlocking campaigns for logistics, air, and naval support, and EW. The objective would be to break through or circumvent shore defenses, establish and build a beachhead, transport personnel and materiel to designated landing sites in the north or south of Taiwan's western coastline, and launch attacks to seize and occupy key targets or the entire island. In 2019, the PLA conducted joint amphibious assault exercises near Taiwan. Furthermore, China continues to build capabilities that would contribute to a full-scale invasion; in 2019, the PLA completed construction of its first helicopter dock amphibious assault ship (LHA).

Large-scale amphibious invasion is one of the most complicated and difficult military operations. Success depends upon air and maritime superiority, the rapid buildup and sustainment of supplies onshore, and uninterrupted support. An attempt to invade Taiwan would likely strain China's armed forces and invite international intervention. These stresses, combined with China's combat force attrition and the complexity of urban warfare and counterinsurgency, even assuming a successful landing and breakout, make an amphibious invasion of Taiwan a significant political and military risk.

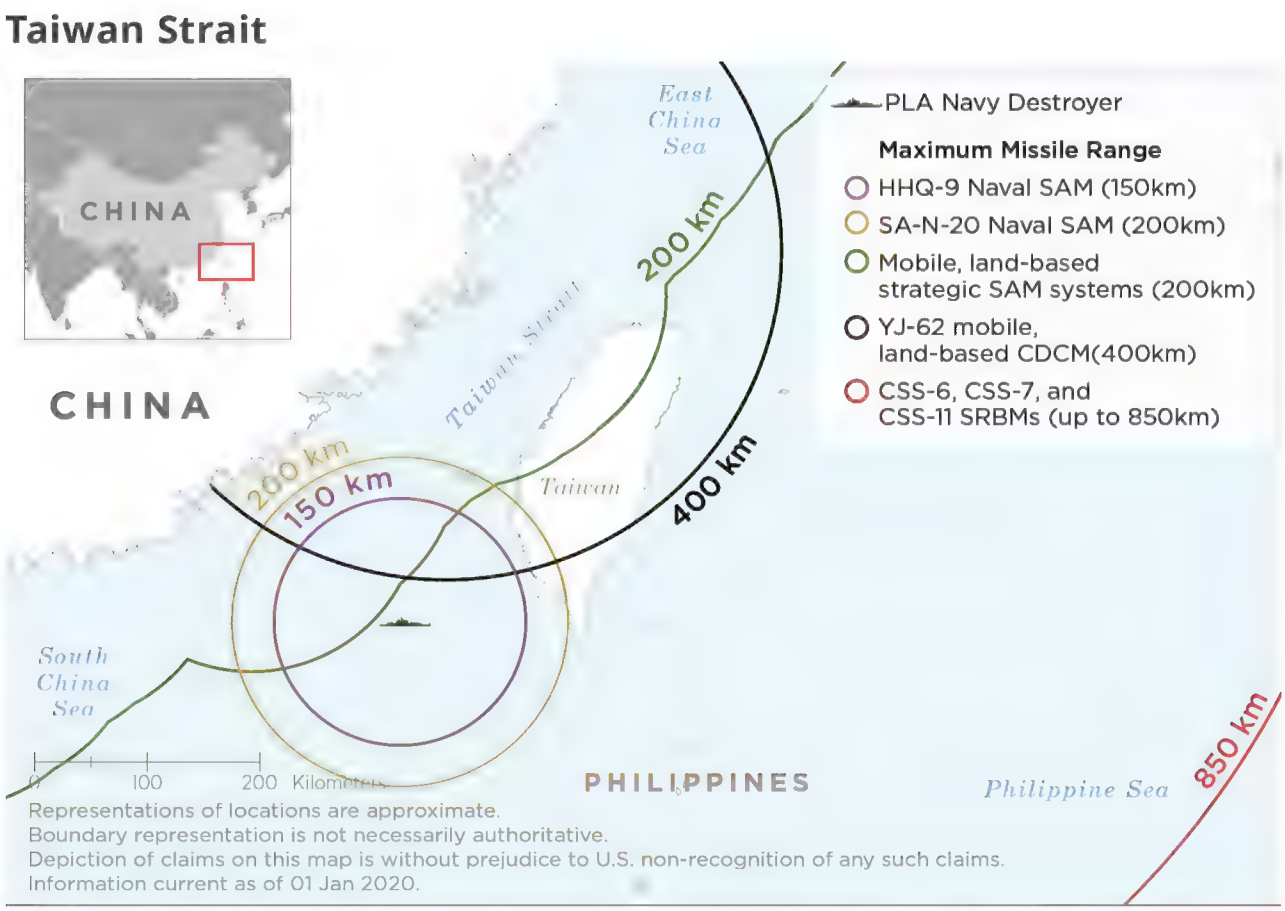
The PLA is capable of accomplishing various amphibious operations short of a full-scale invasion of Taiwan as well. With few overt military preparations beyond routine training, China could launch an invasion of small Taiwan-occupied islands in the South China Sea such as Pratas or Itu Aba. A PLA invasion of a medium-sized, better-defended island such as Matsu or Jinmen is within China's capabilities. Such an invasion would demonstrate military capability, political resolve, and achieve tangible territorial gain while simultaneously showing some measure of restraint. However, this kind of operation involves significant, and possibly prohibitive, political risk because it could galvanize pro-independence sentiment on Taiwan and generate international opposition.

Effect of PLA Reform on a Taiwan Contingency

One of the overarching goals of the structural reforms to reshape the PLA was to construct a military capable of conducting complex joint operations, including those that would be involved in a Taiwan contingency. PLA reforms seek to clarify command authorities, improving joint integration, and facilitating the transition from peace to war. The abolishment of military regions in favor of military theaters – in this case, the PLA's Eastern Theater Command – has also likely streamlined and improved the PLA's ability to conduct yearlong planning and preparation for joint military operations across the Taiwan Strait. PLA combat units are likely experiencing temporary decreases in readiness and proficiency to conduct large-scale joint operations as they reorganize units, integrate new capabilities, and adjust to new command structures.

A significant addition to the overall structure of the PLA is the establishment of the Strategic Support Force (SSF) and the Joint Logistic Support Force (JLSF). During a Taiwan contingency, the JLSF, in conjunction with subordinate joint logistics support centers, would coordinate joint logistics and the delivery of materiel as well as oversee various civil-military support systems to sustain the campaign. The creation of the SSF likely improves the PLA's ability to execute and coordinate IO (particularly cyber, EW, and counterspace) in a Taiwan contingency. It may also improve the PLA's ability to manage and provide space-based reconnaissance to the CMC and the Eastern Theater Command, improving PLA command staffs' situational awareness of Taiwan's military units and facilities. The PLA is likely still exploring how to reform its joint command processes to integrate IO and ISR capabilities more fully at the theater-level, but structural reforms have removed the biggest barriers to integrating these strategic capabilities at the theater-level.

Structural reforms within the military and paramilitary forces also have implications on resources and operational capabilities available to the PLA for a future Taiwan contingency.



THE PLA'S CURRENT POSTURE FOR A TAIWAN CONFLICT

PLA Army (PLAA). The PLAA continues to enhance its readiness to prevent Taiwan independence and execute an invasion if necessary. Through their design and training, the PLAA's restructured and improved combined-arms brigades prioritize maneuver, flexibility, and ability to deploy in different terrain environments while bringing ample firepower in combat scenarios beyond China's borders. The PLA Eastern Theater Command and Southern Theater Command field multiple amphibious combined-arms brigades in relatively close proximity to Taiwan. These amphibious combined-arms brigades are outfitted with specialized vehicles and equipment, including Type 05 amphibious infantry fighting vehicles, amphibious assault guns, and other multi-purpose amphibious vehicles.

PLAA units continue to conduct amphibious assault training in both single service and joint environments. Recent training involving PLAA amphibious elements and PLAN landing craft have likely sought to improve the tactical skills necessary to conduct an amphibious assault and provided experience to PLAA and PLAN leaders working together in a joint environment. As new systems proliferate and complex training continues, the PLAA will likely increase its ability to establish, defend, and exploit a beachhead lodgment.

Throughout 2019, the PLAA highlighted training opportunities within their aviation and air assault brigades. The PLAA's two air assault brigades provide increased attack, air assault, and close air support options for a Taiwan invasion. Additionally, the PLAA's ongoing fielding of advanced air defense, EW, and command and control (C2) systems enhances the combat power, force protection, and sustainment capabilities of its brigades, which are essential for successful invasion scenarios.

PLA Navy (PLAN). The PLAN is improving anti-air, anti-surface, and anti-submarine warfare capabilities, developing an at-sea nuclear deterrent, and introducing new multi-mission platforms capable of striking Taiwan's naval forces in a cross-Strait conflict as well as conducting diverse missions in other contingency operations. New attack submarines and modern surface combatants with anti-air capabilities and fourth-generation naval aircraft entering the force are designed to achieve maritime superiority within the First Island Chain as well as to deter and counter any potential third-party intervention in a Taiwan conflict. China's amphibious ship fleet, however, has in recent years focused on acquiring a modest number of ocean-going amphibious transport docks (LPDs) and now LHAs, indicating a near term focus on regional and eventually global expeditionary missions rather than the large number of landing ship transports and medium landing craft that would be necessary for a large-scale direct beach assault. There is also no indication China is significantly expanding its force of LSTs and medium sized landing craft at this time – suggesting a direct beach-assault operation requiring extensive lift is less likely in planning.

PLA Air Force (PLAAF). The PLAAF has maintained a force posture that provides a variety of capabilities for a Taiwan contingency. It has acquired a large number of advanced aircraft capable of conducting operations against Taiwan without requiring refueling, providing it with a significant capability to conduct air-superiority and ground-attack operations. A number of long-range air defense systems provide a strong layer of defense of China's mainland against counterattack. In addition, China's development of support aircraft provides the PLAAF with improved ISR capability to support PLA operations in a contingency.

PLA Rocket Force (PLARF). The PLARF is prepared to conduct missile attacks against high-value targets, including Taiwan's C2 facilities, air bases, radar sites, and others in an attempt to degrade Taiwan's defenses, neutralize Taiwan's leadership, or break the public's will to fight.

Strategic Support Force (SSF). PLA doctrinal writings emphasize the importance of space and cyberspace domains in joint operations. The PRC's 2019 defense white paper states that its armed forces are accelerating the build-up of its cyberspace capabilities, specifically its cyber defenses and its ability to detect and counter network intrusions. PLA writings suggest that the SSF would be responsible for the use of EW and cyber operations during a Taiwan contingency, as one of the missions of the force is "seizing and maintaining battlefield information control in contemporary informatized warfare." The SSF 311 Base would also be responsible for political and psychological warfare against Taiwan to influence public opinion and promote the PRC's interests.

Joint Logistic Support Force (JLSF). The JLSF's primary goal is to provide joint logistics support to the PLA's strategic and campaign-level operations, such as a Taiwan contingency, by conducting C2 of joint logistics, delivering materiel, and overseeing various support mechanisms.

China's Amphibious Capabilities

The PLA continues to make modest gains in amphibious warfare by developing additional capabilities to conduct amphibious landings and seize and defend small islands. The PLA has 12 units organized and equipped to conduct amphibious operations. Over the last five years, the PLAA and the PLA Navy Marine Corps (PLANMC) have fielded new equipment designed specifically for amphibious operations such as the ZBD-05 amphibious infantry fighting vehicle and the PLZ-07B amphibious self-propelled howitzer. The PLA has also made efforts to improve its ability to insert forces by air, restructuring the Airborne Corps and establishing Army air assault units, which would seize key terrain and interdict Taiwan counterattacks. Both PLAA and PLANMC units equipped for amphibious operations conduct regular company- to battalion-level amphibious training exercises, and the PLA continues to integrate aerial insertion training into larger exercises, to include dropping airborne troops from the Y-20 heavy-lift aircraft for the first time. However, the PLA rarely conducts amphibious exercises involving echelons above a battalion, though both PLAA and PLANMC units have emphasized the development of combined-arms battalion formations since 2012.

TAIWAN'S DEFENSIVE CAPABILITIES

Key Takeaways

- China's multi-decademilitary modernization effort has eroded or negated many of the military advantages that Taiwan has historically enjoyed the context of a cross-Strait conflict.
- To counter China's improving capabilities, Taiwan is developing new concepts and capabilities for asymmetric warfare.

Taiwan has historically enjoyed military advantages in the context of a cross-Strait conflict, such as technological superiority and the inherent geographic advantages of island defense, but China's multi-decade military modernization effort has eroded or negated many of these advantages. Although Taiwan is taking important steps to compensate for the growing disparities – building its war reserve stocks, growing its defense-industrial base, improving joint operations and crisis response capabilities, and strengthening its officer and noncommissioned officer corps – these improvements only partially address Taiwan's declining defensive advantages. Taiwan's Ministry of National Defense 2019 *National Defense Report* reflects adjustments to the military's strategy for defending the island, placing greater emphasis on protecting its littorals and near-shore coastal areas. The modified strategy stresses enhanced asymmetric capabilities, as well as suggesting greater reliance on Taiwan's Air Force and Navy. Taiwan's armed forces are authorized to fill approximately 215,000 billets, including 188,000 active duty billets. Reservists and civil defense volunteers support the active duty forces. The Ministry of National Defense has stated that its goal is to fill 90 percent of the billets (or approximately 169,000) by 2020. Taiwan's military modernization program envisions a continued decrease in Taiwan's active duty force to approximately 175,000 personnel as part of a transition to an all-volunteer force. This transition has slowed due to severe difficulties recruiting volunteers. The cost savings from manpower reductions provides some margin to improve individual pay and benefits, housing, and incentive pay; however, these savings have been insufficient to cover the full increase in manpower-related costs needed to attract and retain personnel under the new system. The unanticipated magnitude of transition costs has led Taiwan to divert funds from foreign and indigenous defense acquisition programs, as well as near-term training and readiness. Taiwan also faces considerable equipment and readiness challenges.

In addition, Taiwan's military spending remains at approximately two percent of its gross domestic product. In August 2019, Taiwan said it would increase the island's defense budget by 5.2 percent to NT $358 billion ($11.6 billion). Meanwhile, China's official defense budget continues to grow, and for 2019, is roughly 15 times that of Taiwan, with much of it focused on developing the capability to unify

Taiwan with the PRC by force. Recognizing the growing disparity between their respective defense expenditures, Taiwan has stated that it is working to develop new concepts and capabilities for asymmetric warfare. Some specific areas of emphasis include offensive and defensive information and EW, high-speed stealth vessels, shore-based mobile missiles, rapid mining and minesweeping, unmanned aerial systems, and critical infrastructure protection.

The United States maintains a "one-China" policy that is based on the Taiwan Relations Act (TRA) and the three Joint Communiqués. The United States opposes unilateral actions aimed at altering the status quo. The United States continues to support the peaceful resolution of cross-Strait issues in a manner, scope, and pace acceptable to both sides.

Consistent with the TRA, the United States contributes to peace, security, and stability in the Taiwan Strait by providing defense articles and services to enable Taiwan to maintain a sufficient self-defense capability. In May 2020, the White House publicly released a report to Congress entitled, *United States Strategic Approach to the People's Republic of China.* The report states, "Beijing's failure to honor its commitments under the communiques, as demonstrated by its massive military buildup, compels the United States to continue to assist the Taiwan military in maintaining a credible self-defense, which deters aggression and helps to ensure peace and stability in the region. In a 1982 memorandum, President Ronald Reagan insisted 'that the quantity and quality of the arms provided Taiwan be conditioned entirely on the threat posed by the PRC.'" In October 2019, Taiwan announced the purchase of F-16V fighter aircraft for $8 billion. Since 2010, the United States has announced more than $23 billion in arms sales to Taiwan.

4

THE PLA'S GROWING GLOBAL PRESENCE

Key Takeaways

- CCP leaders believe that the PRC's global activities, including the PLA's growing global presence, are necessary to create a "favorable" international environment for China's national rejuvenation.
- The CCP has tasked the PLA to develop the capability to project power outside China's borders and immediate periphery to secure the PRC's growing overseas interests and advance its foreign policy goals.

The CCP seeks to create international conditions that are conducive to the PRC's continued development and that are compatible with its aspirations for China's rejuvenation as a "great modern socialist country." CCP leaders believe that the PRC's global activities, including the PLA's growing global presence, contribute to creating a "favorable" international environment for China's national rejuvenation. This evolving approach parallels the Party's view that the initial decades of the 21st century represent a "period of strategic opportunity" to focus on building China's composite national power.

The CCP has tasked the PLA to develop the capability to project power outside China's borders and immediate periphery to secure the PRC's growing overseas interests and advance its foreign policy goals. China is focusing efforts to develop security relationships with key countries along its periphery and beyond the Second Island Chain. In addition to promoting the One Belt, One Road (OBOR) initiative, China almost certainly will seek new cooperative security partnerships with foreign nations, including the expansion of the PLA's global military attaché presence and access, and ensuring more reliable, cost-effective, and diverse sources of energy and other strategic resources.

The PRC probably will continue to expand the PLA's global military presence through humanitarian assistance, naval escorts and port calls, UN peacekeeping operations (PKO), arm sales, influence operations, and bilateral and multilateral military exercises. Through these engagements, Beijing can strengthen and expand its diplomatic relationships to advance its foreign policy goals, to include shaping the international system to align with the PRC's interests, and allow the PLA to gain operational experience.

CHINA'S ONE BELT, ONE ROAD (OBOR) INITIATIVE

Key Takeaways

- Beijing uses OBOR to support its strategy of national rejuvenation by seeking to expand global transportation and trade linkages to support its development and deepen its economic integration with nations along its periphery and beyond.
- The PRC's overseas development and security interests under OBOR will drive the PRC towards expanding its overseas military footprint to protect those interests.

First announced in 2013, China's OBOR initiative is a signature foreign and economic policy advanced by President Xi Jinping. Beijing uses OBOR to support its strategy of national rejuvenation by seeking to expand global transportation and trade linkages to support its development and deepen its economic integration with nations along its periphery and beyond. China implements OBOR by financing, constructing, and developing transportation infrastructure, natural gas pipelines, hydropower projects, digital connectivity, and technology and industrial parks worldwide. PRC leaders have touted the economic benefits of OBOR and invited foreign partners to join, promising wealth and prosperity to those nations that participate. Since its creation, over 125 countries have signed OBOR cooperation documents. OBOR-related spending is difficult to estimate because there is no comprehensive list of projects.

In support of its national strategy, the PRC pursues a range of goals through OBOR to include strengthening its territorial integrity, increasing its energy security, and expanding its international influence. Given the Party views the PRC's security and development interests as complementary, the PRC leverages OBOR to invest in projects along China's western and southern periphery to improve stability and diminish threats along its borders. Similarly, OBOR projects associated with pipelines and port construction in Pakistan intend to decrease China's reliance on transporting energy resources through strategic choke points, such as the Strait of Malacca.

The PRC attempts to use the economic influence it accrues through OBOR to encourage participating countries to support Beijing's priorities and objectives on a range of other matters. The PRC applies military, intelligence, diplomatic, and economic tools to counter perceived threats to OBOR's long-term viability, although the party-state lacks the expertise necessary to assess comprehensive risks in most OBOR participating countries. China's leaders have tried to counteract negative perceptions of OBOR to attract potential investors as well as reduce suspicions of Beijing's intentions. In the wake of domestic and international criticism of OBOR, China has attempted to appear more responsive to partner-country input, and open to wider participation. In April 2019, China hosted leaders from 37

countries and delegates from over 150 countries to the second Belt and Road Forum in Beijing. During the forum, PRC leaders attempted to respond to criticism and concerns over corruption, debt sustainability, environmental effects, and the CCP's underlying goals associated with OBOR.

As the PRC's overseas development and security interests expand under OBOR, the CCP has signaled that its overseas military footprint will expand accordingly to protect those interests, which the CCP recognizes may provoke pushback from other states. Some of OBOR's planned economic corridors would transit regions prone to violence, separatism, armed conflict, and instability, putting OBOR-related projects and PRC citizens working overseas at risk. China's defense and security outreach has sought to extend its ability to project military power to safeguard its overseas interests, including OBOR, by developing closer regional and bilateral counterterrorism cooperation, supporting host-nation security forces, and other means.

CHINA'S GLOBAL MILITARY ACTIVITIES

Key Takeaways

- The PRC has increasingly recognized that its armed forces should take a more active role in advancing its foreign policy goals.
- As the PRC's overseas interests have grown over the past two decades, the Party's leaders have increasingly pushed the PLA to think about how it will operate beyond China's borders and its immediate periphery to advance and defend these interests.
- In 2019, the PLA continued to expand its participation in bilateral and multilateral military exercises, normalize its presence overseas, and build closer ties to foreign militaries.

As the PRC's overseas interests have grown over the past two decades, the Party's leaders have increasingly pushed the PLA to think about how it will operate beyond China's borders and its immediate periphery to advance and defend these interests. More recently, the PRC has recognized that its armed forces should take a more active role in advancing its foreign policy goals. The PRC's 2019 defense white paper notably described its armed forces as responding, "faithfully to the call for a community with a shared future for mankind" and called on its military to "actively participate in the reform of global security governance system." In line with this direction, the PLA in 2019 continued to expand its participation in bilateral and multilateral military exercises, normalize its presence overseas, and build closer ties to foreign militaries. The PLA is increasingly likely to couch the purpose of its external activities in terms of providing direct support to the PRC's foreign policy goals, such as advancing China's strategic partnerships through greater military cooperation.

The PLA's Evolving Missions and Tasks. In 2004, one of the "new historic missions" given to the PLA by then-President Hu Jintao was to support China's overseas interests and diplomacy. The PLAN's evolving focus—from "offshore waters defense" to a mix of "offshore waters defense" and "open seas protection" —reflects the PLAN's interest in a wider operational reach. The PLAAF's missions and tasks have similarly evolved towards conducting operations beyond China and its immediate periphery and supporting the PRC's interests by becoming a "strategic" air force. Additionally, the PLA has embraced its concept of non-war military activities (NWMA) as an effective way for it lend support to and safeguard China's development, expand the PRC's global interests, and gain valuable operational experience.

The PLAN, PLAAF, PLAA, and SSF have deployed abroad for counterpiracy, humanitarian assistance and disaster relief (HA/DR), peacekeeping, training exercises, and space support operations. Within the PLA, the PLAN may have the most experience operating abroad due to its far seas deployments and counterpiracy missions, the PLAAF likely has the most experience conducting rapid response HA/DR operations abroad, and the PLAA has the most experience conducting PKO. The SSF runs tracking, telemetry, and command stations in Namibia, Pakistan, and Argentina. The SSF also has a handful of Yuan Wang space support ships to track satellite and intercontinental ballistic missile (ICBM) launches.

- Since 2008, PLAN ships have visited the Middle East, Europe, Africa, South Asia, Southeast Asia, Oceania, and Latin America. The PLAN has also conducted submarine deployments to the Indian Ocean, demonstrating its increasing familiarity with operating in that region and underscoring China's interest in protecting sea lines of communication (SLOCs) beyond the South China Sea. In 2015, three PLAN ships from a Gulf of Aden naval escort task force evacuated 629 PRC citizens from Yemen to Djibouti and Oman.
- Since 2002, the PLAAF has delivered aid after natural disasters throughout Southeast Asia and South Asia, assisted with evacuation from Libya in 2015, and searched for Malaysian aircraft MH370 in 2014.

Counterpiracy Efforts. In 2019, China continued to conduct counterpiracy operations in the Gulf of Aden by deploying its 31st, 32nd, and 33rd naval escort task forces to the area since 2008. The 32nd Task Force escorted 42 Chinese and foreign ships during its deployment and participated in the China-France military exchange and the Russian Navy Day festival celebrations. At the conclusion of deployments, these task groups conduct port calls and held bilateral engagements with host country militaries and local Chinese communities, providing additional opportunities for PLA military diplomacy. The 32nd Task Force conducted port calls to Mozambique and Malaysia.

Peacekeeping Operations. In 2019, China remained the largest troop contributor to UN peacekeeping missions among the permanent members of the UN Security Council. China uses it participation in UN PKO to highlight its role as a "responsible" global actor and to obtain operational experience for the PLA. The PLA uses its participation in PKO to refine its ability to operate beyond the PRC's borders. The PLA highlighted its peacekeeping contributions in the PRC's 70th anniversary parade in October 2019.

- China provides personnel to UN operations in Sudan, South Sudan, Mali, the Democratic Republic of the Congo, Western Sahara, Cyprus, Lebanon and elsewhere in the Middle East. PRC personnel deployed to PKO consist of troops, police, staff officers, and experts including engineers, medical professionals, and logisticians. In August 2019, the PLAA sent its third helicopter detachment to Sudan, transported by PLAAF heavy-lift transport aircraft, and in November 2019, sent its sixth peacekeeping infantry battalion to South Sudan.

- As of December 2019, China was the tenth-largest contributor to UN PKOs with approximately 2,545 personnel among eight UN PKO missions in Africa, Europe and the Middle East. China's personnel contributions have decreased slightly since 2018 from 2,634 personnel in January 2018 to 2,545 personnel in December 2019. China is the second largest contributor to UN PKO and funded 15.21 percent of the total $6.5 billion annual UN peacekeeping budget in 2019, an increase from 10.24 percent in 2018.

Military Cooperation. Recognizing the PLA's role in defending China's overseas interests and supporting its foreign policy, the PRC's 2019 defense white paper noted that the PLA "promotes international security and military cooperation and refines relevant mechanisms for protecting China's overseas interests." As the PRC's regional and international interests grow more complex, the PLA's international engagements will likely continue to expand. For example, senior-level military visits and exchanges provide the PLA with opportunities to increase its officers' international exposure, advance the PRC's foreign policy goals through military assistance programs, and develop professional relationships. Expanding travel abroad for PLA officers enables the PLA to better observe and study foreign military command structures, unit formations, and operational training and shape approaches to shared security concerns. In 2019, PRC Defense Minister General Wei Fenghe attended the Shangri-La Dialogue for the first time since 2011 and spoke on the PRC's role in the Indo-Pacific region.

The PRC continues to expand the PLA's participation in bilateral and multilateral military exercises, normalizing the PLA's presence overseas and establishing ties to foreign militaries. For example, in 2019 the PLA participated in Russia's national-level exercise TSENTR-19 along with forces from India,

Pakistan, Kyrgyzstan, Kazakhstan, Tajikistan, and Uzbekistan. To participate in the exercise, the PLA deployed 1,600 personnel from the Western Theater Command and nearly 30 fixed-wing aircraft and helicopters. For a list of selected PLA bilateral and multilateral exercises in 2019, see Appendix IV. In recent years, China has increased its military cooperation and engagements on security issues with the African Union (AU), with an emphasis on peacekeeping capacity building. In addition to providing PLA forces and other personnel to several UN PKOs in Africa, the PRC provides support to AU-sanctioned operations including the African Union Mission in Somalia (AMISOM) to which it has provided equipment and $1.2 million in annual funding. China also provided $100 million dollars of military equipment to the AU-supported African Standby Force's strategic stockpile at the Continental Logistics Base in Douala, Cameroon. In July 2019, the PRC Ministry of National Defense hosted the first China-Africa Peace and Security Forum in Beijing. Attended by defense and military representatives from 50 African countries, the forum sought to deepen China's role in African security issues and more broadly promote the PRC's foreign policy objectives to strengthen its strategic partnerships with African countries and further its concept of building a "community with a shared future for mankind."

CHINA-TAJIKISTAN COUNTERTERRORISM COOPERATION

Since at least 2016, People's Armed Police (PAP) forces have likely operated in Tajikistan, patrolling the tri-border region connecting Tajikistan, Afghanistan, and China. This is likely tied to the August 2016 creation of a quadrilateral counterterrorism coordination mechanism between Afghanistan, China, Pakistan, and Tajikistan to jointly strengthen border security against China's defined "three evils," terrorism, separatism, and religious extremism. PAP forces operating in Tajikistan are from Xinjiang province, likely also exporting its more suppressive approach to the "three evils."

- Although the agreement may initially have authorized combined patrols, China now appears to be conducting unilateral patrols in the tri-border region. The PLA is also expanding their cooperation with Tajikistan, notably expanding their bilateral counterterrorism exercise in 2019, including PLAAF fighters, fighter-bombers, unmanned aerial vehicles (UAVs), and combined close-air support with Tajik special operations forces (SOF).
- China's concerns about border stability were probably heightened after U.S. and NATO combat forces began withdrawing from Afghanistan in 2014, especially concerns over terrorists moving from Afghanistan into China's Xinjiang province. In 2015, China passed a counterterrorism law authorizing overseas military counterterrorism operations.

> In 2011, China and Tajikistan settled their border dispute in this region by Tajikistan ceding more than 300 sq. miles of land to China. Since 2016, China has also agreed to build guard outposts and a training facility in the tri-border region, with some reports suggesting the new outposts could number as high as 40.

PRC technology companies may also be collecting facial recognition data on Tajikistanis with the citywide facial recognition supplied since at least 2013, similar to the surveillance equipment installed in Xinjiang.

PLA OVERSEAS BASING AND ACCESS

Key Takeaways

> The PRC is seeking to establish a more robust overseas logistics and basing infrastructure to allow the PLA to project and sustain military power at greater distances.

> A global PLA military logistics network could both interfere with U.S. military operations and support offensive operations against the United States as the PRC's global military objectives evolve.

> Beyond its base in Djibouti, the PRC is very likely already considering and planning for additional military logistics facilities to support naval, air, and ground forces projection.

> The PRC has likely considered Myanmar, Thailand, Singapore, Indonesia, Pakistan, Sri Lanka, United Arab Emirates, Kenya, Seychelles, Tanzania, Angola, and Tajikistan as locations for PLA military logistics facilities.

The PRC is seeking to establish a more robust overseas logistics and basing infrastructure to allow the PLA to project and sustain military power at greater distances. Beijing may assess that a mixture of military logistics models, including preferred access to commercial infrastructure abroad, exclusive PLA logistics facilities with prepositioned supplies co-located with commercial infrastructure, and bases with stationed forces, most closely aligns with the PRC's overseas military logistics needs. Currently, the PRC uses commercial infrastructure to support all of its military operations abroad, including the PLA's presence in other countries' territories, including its base in Djibouti. Some of the PRC's OBOR projects could create potential military advantages, such as PLA access to selected foreign ports to pre-position the necessary logistics support to sustain naval deployments in waters as distant as the Indian Ocean, Mediterranean Sea, and Atlantic Ocean to protect its growing interests.

PRC official sources assert that military logistics facilities, to include its Djibouti base, will be used to provide international public goods like support to U.N. operations and HA/DR, and to secure China's lines of communication, citizens and assets abroad. Regardless, a global PLA military logistics network could both interfere with U.S. military operations and support offensive operations against the United States as the PRC's global military objectives evolve. Host nations can perform an essential role in regulating the PRC's military operations, as PRC officials very likely recognize that a stable long-term relationship with the host nation is critical to the success of their military logistics facilities.

- PRC military academics assert that bases abroad can enable forward deployment of PLA forces and support military conflict, diplomatic signaling, political change, bilateral and multilateral cooperation, and training. They also suggest that a military logistics network could enable intelligence monitoring of the U.S. military.

- In August 2017, the PRC officially opened its first PLA base in Djibouti. PLA Navy Marines are stationed at the base with wheeled armored vehicles and artillery but are currently dependent on nearby commercial ports due to the lack of a pier on base. PLA personnel at the facility have interfered with U.S. flights by lasing pilots and flying drones, and the PRC has sought to restrict Djiboutian sovereign airspace over the base.

Beyond its base in Djibouti, the PRC is very likely already considering and planning for additional military logistics facilities to support naval, air, and ground forces projection. The PLA's approach likely includes consideration of many different sites and outreach to many countries, but only some will advance to negotiations for an infrastructure agreement, status of forces or visiting forces agreement, and/or basing agreement. Critical organizations involved in planning and negotiating for military logistics facilities are the Central Military Commission (CMC) Joint Staff Department, CMC Logistic Support Department, and service headquarters. China's overseas military basing will be constrained by the willingness of potential host nations to support a PLA presence.

- The PRC has likely considered Myanmar, Thailand, Singapore, Indonesia, Pakistan, Sri Lanka, United Arab Emirates, Kenya, Seychelles, Tanzania, Angola, and Tajikistan as locations for PLA military logistics facilities. The PRC has probably already made overtures to Namibia, Vanuatu, and the Solomon Islands. Known focus areas of PLA planning are along the SLOCs from China to the Strait of Hormuz, Africa, and the Pacific Islands.

- Cambodia declined a U.S. offer to pay to renovate a U.S.-donated building on Ream Naval Base in Cambodia. Cambodia may have instead accepted assistance from China or another country to develop Ream Naval Base. If China is able to leverage such assistance into a presence at Ream Naval Base, it suggests that China's overseas basing strategy has diversified to include military

capacity-building efforts. Both the PRC and Cambodia have publicly denied having signed an agreement to provide the PLAN access to Ream Naval Base.

THE PRC'S INFLUENCE OPERATIONS

Key Takeaways

- The PLA has emphasized the development of its "Three Warfares" concept—comprised of psychological warfare, public opinion warfare, and legal warfare—in its operational planning since at least 2003.
- The PRC conducts influence operations to achieve outcomes favorable to its strategic objectives by targeting cultural institutions, media organizations, business, academic, and policy communities in the United States, other countries, and international institutions.
- The CCP seeks to condition domestic, foreign, and multilateral political establishments and public opinion to accept Beijing's narratives.
- CCP leaders probably consider open democracies, including the United States, as more susceptible to influence operations than other types of governments.

The PLA has emphasized the development of its "Three Warfares" concept—encompassing psychological warfare, public opinion warfare, and legal warfare—in its operational planning since at least 2003. Psychological warfare uses propaganda, deception, threats, and coercion to affect the adversary's decision-making, while also countering adversary psychological operations. Public opinion warfare disseminates information for public consumption to guide and influence public opinion and gain support from domestic and international audiences. Legal warfare uses international and domestic laws to gain international support, manage political repercussions, and sway target audiences. China views the cyberspace domain as a platform providing opportunities for influence operations, and the PLA likely seeks to use online influence activities to support its overall "Three Warfares" concept and to undermine an adversary's resolve in a contingency or conflict.

The PRC conducts influence operations by targeting cultural institutions, media organizations, business, academic, and policy communities in the United States, other countries, and international institutions. CCP leaders probably consider open democracies, including the United States, as more susceptible to influence operations than other types of governments. The PRC's influence operations are coordinated at a high level within the party-state and executed by a range of actors, such as the United Front Work Department, the Propaganda Ministry, the State Council Information Office, the PLA and the Ministry of State Security (MSS). The CCP has a long history of using influence

operations for domestic purposes, including "United Front Work" prior to the formulation of the PRC and onwards, to co-opt and align non-Party actors in society. The CCP utilizes United Front actors to advocate for the PRC's sovereignty interests within China and abroad.

A cornerstone of the CCP's approach to influence operations includes appealing to PRC citizens living overseas and members of Chinese diaspora populations, regardless of their citizenship, to advance the Party's objectives. The PRC also sometimes uses coercion or blackmail to manipulate its citizens overseas to conduct influence operations on behalf of the PRC, such as threatening ethnic Uyghurs living in the United States with imprisonment of their family members in China. The PRC's intelligence services often facilitate these operations. Additionally, the PRC targets individuals in other countries to support its acquisition of foreign technology. The PRC's "Thousand Talents Program" seeks to recruit individuals primarily, but not exclusively, from relevant diaspora populations and recent emigrants from the PRC, as well as foreign national experts whose recruitment the PRC views as necessary to its scientific and technical modernization, especially with regard to defense technology.

The PRC uses its so-called "5 cent army" to spread Party-approved narratives abroad via social media. These posts promote positive narratives of the PRC and support Beijing's programs to try to influence public opinion towards the pro-China perspectives. In August 2019, Facebook and Twitter announced they had deleted accounts associated with the PRC that were promoting disinformation regarding the protests in Hong Kong.

The CCP seeks to condition domestic and foreign publics to accept Beijing's narratives surrounding its priorities like OBOR and South China Sea territorial and maritime claims. Furthermore, the PRC seeks to harness academia and educational institutions, think tanks, and state-run media to advance its soft power campaign in support of the PRC's interests. For example, the PRC uses its citizens studying abroad and academic organizations to spread the Party's narrative on Tibet and the Dalai Lama. Chinese Students and Scholars Associations and Confucius Institutes organize events to support the PRC's sovereignty claims. They also organize protests and lodge complaints against academic institutions that fail to comport with the Party's narratives.

The PRC's foreign influence activities also focus on establishing and maintaining influence with power brokers within foreign governments to promote policies that Beijing views will facilitate its national rejuvenation, despite the PRC's public position that it does not interfere in the internal affairs of other countries. China's diplomatic outreach stresses building personal rapport with influential people, providing assistance, and emphasizing "win-win cooperation" through trade and diplomacy. This approach allows China to offer expedited, small-scale accomplishments to partners abroad, often in exchange for seemingly symbolic gestures of support to the PRC's long-term strategic goals. Some

countries have begun to implement policy responses to the PRC's influence activities, including within the European Union as well as Australia and New Zealand.

The PRC uses multilateral forums and international organizations to generate new opportunities to expand its influence, strengthen its political influence, promotes strategic messaging that portrays it as a responsible global actor, advance its development interests, and limit outside interference in and criticism of its initiatives. Towards these ends, the PRC has embraced multilateral organizations such as Brazil, Russia, India, China, and South Africa (BRICS), the Shanghai Cooperation Organization, the African Union (AU), the Association of Southeast Asian Nations (ASEAN), as well as forums and initiatives such as the Forum on China-Africa Cooperation (FOCAC), the China-Arab States Cooperation Forum, the "17+1" initiative between China and 17 Central and Eastern European countries, and the Belt and Road Forum.

CHINA IN THE ARCTIC

Key Takeaway

> In May 2019, the PRC hosted the Arctic Circle China Forum in Shanghai and PRC officials highlighted the PRC's interest in expanding its partnership with countries along what it calls the "Polar Silk Road."

The PRC has increased activities and engagement in the Arctic region since gaining observer status in the Arctic Council in 2013. In May 2019, the PRC hosted the Arctic Circle China Forum in Shanghai and PRC officials highlighted the PRC's interest in expanding its partnership with countries along what it calls the "Polar Silk Road." In January 2018, the PRC published its first Arctic strategy that first promoted a "Polar Silk Road" and declared China to be a "near-Arctic State." The strategy identifies the PRC's interests, which include access to natural resources and SLOCs, and the promotion of an image of the PRC as a "responsible major country" in Arctic affairs that "aims to contribute its wisdom to the development of the Arctic region." The strategy highlights China's icebreaker vessels and research stations as integral to implementation.

China maintains research stations in Iceland and Norway and operates two icebreaking research vessels. In 2017, the Ukrainian-built Xue Long became China's first official vessel to traverse the Northwest Passage. In late September 2019, Xue Long completed the 10th Arctic expedition that focused on research on the Arctic environment. Last year, China launched its second icebreaking research vessel, Xue Long 2. Xue Long 2 can break ice 1.5 meters thick, compared to Xue Long 1's maximum of 1.2 meters. Furthermore, Xue Long 2 is the first polar research vessel that can break ice while moving forwards or backwards. In 2019, Xue Long 2 set sail on its maiden voyage to the

Antarctic. The PRC's SOEs are probably in the very early stages of developing China's first nuclear-powered icebreaker; however, it is unclear when the vessel will be completed.

The PRC's expanding Arctic engagement has created new opportunities for engagement between China and Russia. In April 2019, China and Russia established the Sino-Russian Arctic Research Center. In 2020, China and Russia plan to use this center to conduct a joint expedition to the Arctic to research optimal routes of the Northern Sea Route and the effects of climate change. The PRC will cover 75 percent of the expedition's expenses.

Russian regulations governing the passage along the Northern Sea Route requires foreign states' warships to give Russia 45 days' notice of their intention to follow this route, to have a Russian pilot on board, and to be subject to Moscow's decision to refuse passage through the Northern Sea Route. This regulation potentially restricts the PLAN's ability to operate in the Arctic. China and Russia support further civilian cooperation between Sino-Russian enterprises in the use of the Northern Sea Route, and the Arctic region is an area of opportunity for Sino-Russian commercial cooperation in addition to energy development and infrastructure projects such as the Yamal LNG project and LNG 2.

CHINA'S HYDROCARBON STRATEGY

Key Takeaway

> China's interest in ensuring reliable, cost-effective, and diverse energy sources to support its economic growth drives its overseas investments.

China's interest in ensuring reliable, cost-effective, and diverse fuel sources to support and sustain its economic development has led it to import petroleum and gas from more than 40 countries. In 2019, China imported approximately 10.1 million barrels per day of crude oil, which met approximately 77 percent of its needs. Also in 2019, China met 43 percent of its natural gas demand with imports, which the IEA projects will grow to 46 percent by 2035. Most of China's oil and natural gas imports come primarily from the Persian Gulf, Africa, Russia, and Central Asia. China's energy investments will help diversify transport networks for oil and gas, which could help reduce dependency on strategic chokepoints, such as the Strait of Malacca.

China relies on SLOCs such as the South China Sea and Strait of Malacca for most of its hydrocarbon deliveries. In 2019, approximately 77 percent of China's oil imports and 10 percent of its natural gas imports transited the South China Sea and Strait of Malacca. Despite China's efforts to diversify energy

suppliers, the sheer volume of oil and liquefied natural gas imported from the Middle East and Africa will make securing strategic SLOCs a priority for China for at least the next 15 years.

Crude oil pipelines from Russia and Kazakhstan to China demonstrate China's interest in increasing overland supply. In early 2019, China's 600,000-barrels-per-day pipeline from Russia made up approximately 6 percent of all crude oil imports. In April 2017, Burma and China commissioned a new crude oil pipeline. This 440,000-barrels-per-day pipeline bypasses the Strait of Malacca by transporting crude oil from Kyaukpyu, Burma, to Kunming, China. Middle Eastern and African countries supplied the crude oil for this pipeline.

In 2019, approximately 34 percent of China's natural gas imports (45 billion cubic meters) came from Turkmenistan by a pipeline that runs through Kazakhstan and Uzbekistan. This pipeline can transport 55 billion cubic meters per year, and Turkmenistan and China plan to expand it to 80 billion cubic meters per year in 2020. A natural gas pipeline connecting China to Burma can deliver 12 billion cubic meters per year, but only 4.6 billion cubic meters of gas was shipped in 2019. In early December 2019, the first phase of the Power of Siberia natural gas pipeline was commissioned, transporting natural gas from Russia's Chayandinskoye gas field to China's border in Amur Oblast. The contract for this pipeline is for 30 years and stipulates that 38 billion cubic meters of natural gas be delivered to China each year. A list of China's top crude suppliers in 2019 is provided in Appendix III.

MILITARY ATTACHÉ PRESENCE

China manages its day-to-day overseas military diplomacy work using PLA officers assigned as military attachés in over 110 offices worldwide. China's military attaché presence has grown around the world, which reflects China's increasing global interests. China's military attachés serve as military advisors to the ambassador, support Ministry of Foreign Affairs and PLA foreign policy objectives, and perform a variety of duties tied to PLA military and security cooperation, including counterpart exchanges with host-nation and third-country personnel. Military attachés also conduct clandestine and overt intelligence collection on their countries or areas of assignment. Although the general function of an attaché office is the same worldwide, some attaché offices probably prioritize specific missions or diplomatic priorities due to close bilateral relations or other factors.

China's military attaché offices vary in size, generally ranging from two to ten PLA officers. Most offices consist of just a few accredited officers; however, offices in countries considered important to China's strategic interests are often considerably larger, potentially including multiple assistant attachés, dedicated naval or air force attachés, and support staff.

CHINA-RUSSIA RELATIONS

In June 2019, Russia and China upgraded their relations to a 'comprehensive strategic partnership of coordination in a new era," pledging closer coordination on global security issues and mutual support. This was followed by the PLAAF and the Russian Aerospace Force conducting their first combined air patrol in the Asia-Pacific region. For the second year in a row, China participated in a Russian strategic command and staff exercise, TSENTR-2019, held this year in the Russian Central Military District. Additionally, cooperation between the two militaries includes joint defense technology development, exercises, and cooperation on other military modernization initiatives. Despite continued military cooperation, the PRC and Russia have denied the creation of a military alliance or their intent to enter into an alliance.

TSENTR-2019. From mid-late September, China participated in Russia's strategic command-staff exercise, TSENTR-2019, along with armed forces elements from India, Pakistan, Kyrgyzstan, Kazakhstan, Tajikistan, and Uzbekistan. The aim of the exercise was to test readiness levels of the Russian military and interoperability among regional partners, while simulating a response to terrorist threats in Central Asia. China represented the largest foreign contingent, deploying about 1,600 ground and air troops from the PLA's Western Theater Command and nearly 30 fixed-wing aircraft and helicopters, including H-6 bombers. During the exercise, China and Russia conducted ground maneuvers and Chinese and Russian aircraft may have conducted missile and bombing strikes on mock enemy targets. The PRC's Minister of Defense Wei observed part of the exercise alongside the Russian defense minister and President Vladimir Putin, commenting on the increased level of China-Russia cooperation. Following last year's VOSTOK exercise, TSENTR marked the second consecutive year that China has participated in Russia's command-staff capstone exercise series.

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RESOURCES AND TECHNOLOGY FOR FORCE MODERNIZATION

Key Takeaways

- The PRC's long-term goal is to create an entirely self-reliant defense-industrial sector—fused with a strong civilian industrial and technology sector—that can meet the PLA's needs for modern military capabilities.
- The PRC has mobilized vast resources in support of its defense modernization, including the implementation of its Military-Civil Fusion (MCF) Development Strategy, as well as espionage activities to acquire sensitive, dual-use, and military-grade equipment.
- In 2019, the PRC announced its annual military budget would increase by 6.2 percent, continuing more than 20 years of annual defense spending increases and sustaining its position as the second-largest military spender in the world. The PRC's published military budget omits several major categories of expenditures and its actual military-related spending is higher than what it states in its official budget.

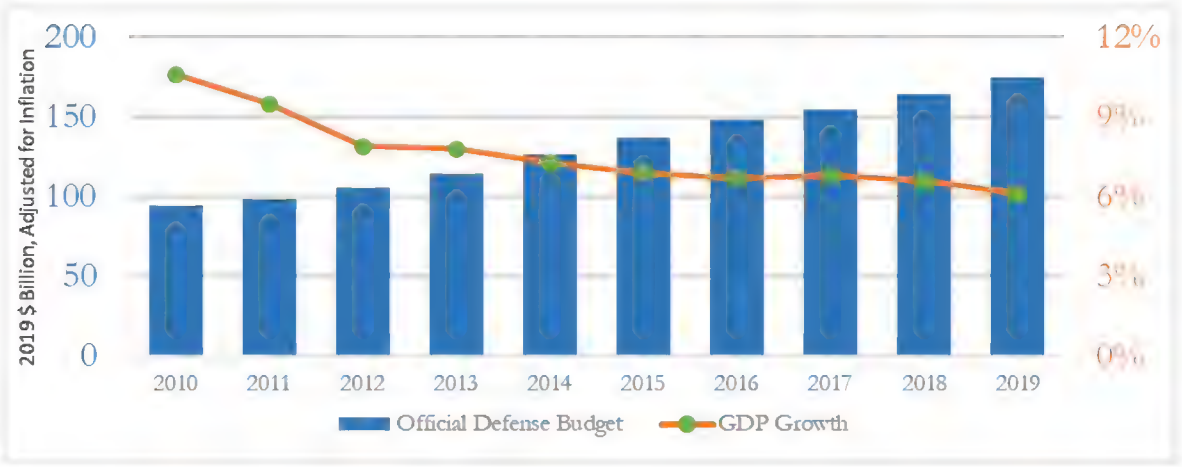
In spite of forecast difficulties for China's economic growth in the 2020s, the Party has the political will and fiscal strength to sustain a steady increase in defense spending over the next decade, which will help support People's Liberation Army (PLA) modernization, develop a fused military-civilian defense industry, and explore new technologies with defense applications. The PRC draws from diverse sources to support PLA modernization, including domestic defense investments, domestic defense-industrial development, a growing R&D and S&T base, dual-use technologies conveyed in part through its MCF strategy, and the acquisition of foreign technology and expertise.

The PRC's long-term goal is to create an entirely self-reliant defense-industrial sector—fused with a strong civilian industrial and technology sector—that can meet the PLA's needs for modern capabilities. However, the PLA still looks to import foreign equipment, technologies, and knowledge to fill some critical, near-term capability gaps and accelerate its modernization. The PRC leverages foreign investments, commercial joint ventures, mergers and acquisitions, academic exchanges, the foreign experience that students and researchers from the PRC gain from studying in foreign nations, and state-sponsored industrial and technical espionage, and the manipulation of export controls for the illicit diversion of dual-use technologies to increase the level of technologies and expertise available to support military research, development, and acquisition.

MILITARY EXPENDITURES TRENDS

In early 2019, the PRC announced a 6.2-percent inflation-adjusted increase in its annual military budget to $174 billion, which is approximately 1.3 percent of gross domestic product. This year's budget continues more than 20 years of annual defense spending increases and sustains the PRC's position as the second-largest military spender in the world after the United States. The PRC's defense budget has nearly doubled during the past 10 years—data from 2010 through 2019 indicates China's official military budget grew at an annual average of approximately 8 percent in inflation-adjusted terms. Based on its official defense spending figures, which omit several major categories of expenditures, the PRC can support continued growth in defense spending for at least the next five to ten years, based on economic data and growth projections.

China: Official Defense Budget, 2010–2019



China's Estimated Military Expenditures. The PRC's published military budget omits several major categories of expenditures, including R&D and foreign weapons procurement. In 2019, China's actual military-related spending could be more than $200 billion, much higher than stated in its official budget. However, actual military expenses are difficult to calculate, largely because of China's poor accounting transparency.

China's Estimated Defense Budget Growth. If China's official defense budget increases annually by an average of 6 percent, growing to $270 billion by 2023, the PLA can dedicate more money for training, operations, and modernization considering the reduction of the PLA's size by 300,000 people. Economic forecasters project that China's economic growth will slow during the next 10 years, falling from 6.1 percent in 2019 to 3 percent in 2030, which could slow future defense spending growth. Assuming accurate economic projections and a steady defense burden, China will remain the second-largest spender after the United States.

Regional Comparison of the PRC's 2019 Official Defense Budget
(adjusted for inflation)

	Billion (USD)
PRC (official budget)	$174.0
India	$61.7
Japan	$53.9
Russia (national defense budget)	$54.8
South Korea	$39.8
Taiwan	$10.9

DEVELOPMENTS AND TRENDS IN CHINA'S DEFENSE SYSTEM

Key Takeaways

- China has substantially reorganized its defense-industrial sector to improve weapon system research, development, acquisition, testing, evaluation, and production.
- China's Military-Civil Fusion (MCF) Development Strategy is a key part of its defense sector reform.

S&T Industry and Innovation: China has substantially reorganized its defense-industrial sector to improve weapon system research, development, acquisition, testing, evaluation, and production. As part of the 13th Five-Year Plan (2016–2020), China implemented a number of critical reforms with the objective of increasingly its competitiveness in key defense industries. Focus areas include aerospace engines—including turbofan technology—and gas turbines; quantum communications and computing; innovative electronics and software; automation and robotics; special materials and applications; nanotechnology; neuroscience, neural research, and artificial intelligence (AI); and deep-space exploration and on-orbit servicing and maintenance systems. China also is applying substantial R&D resources to nuclear fusion, hypersonic weapons technology, and the deployment and hardening of its expanding multipurpose satellite constellation.

- In 2016, the Central Military Commission (CMC) established the Science and Technology Commission, an independent high-level defense research body subordinated to the CMC. The Science and Technology Commission organizes and guides cutting-edge technological innovation in military technology and seeks to increase the pace of military technology development to modernize the PLA using both civilian and military S&T resources.
- In early 2017, the PLA set up the Scientific Research Steering Committee, which is subordinate to the CMC, consisting of scientists and engineers that have experience with cutting-edge technologies. Modeled on the U.S. Defense Advanced Research Projects Agency, this agency seeks to fuel technological innovations with military applications. Along with the Science and Technology Commission, the steering committee will spearhead S&T innovation by advising the CMC on early-stage research projects.
- In July 2017, China reorganized the PLA's top three academic institutes—the PLA Academy of Military Science (AMS), National Defense University, and National University of Defense Technology—as part of its PLA reform initiative. Under the new structure, AMS will focus on

scientific research related to military affairs, facilitating closer ties between military theory and S&T development.

- China's MCF Development Strategy is a key part of China's defense sector reform. China emphasizes assimilating private sector innovation into the defense-industrial base. Responsibility for MCF was centralized in 2017 with the establishment of the Central Commission for Integrated Military and Civilian Development, which is subordinate to the CCP Central Committee.

Two of the most influential proponents in promoting and enforcing China's, S&T initiatives are the State Administration for Science, Technology, and Industry for National Defense and the CMC's Equipment Development Department, which monitor and guide the state and military sides of China's defense-industrial apparatus, respectively. The Equipment Development Department and its military service counterparts cooperate with China's 10 state-owned defense-industrial corporations through a network of military representative bureaus and offices to supervise quality control and defense contract compliance.

The National Science Foundation of China (NSFC), the China Academy of Sciences (CAS), and the Ministry of Science and Technology are key to S&T decision making and funding and to promoting basic and applied research, scientific innovation, and high-tech integration throughout China's scientific, engineering, and civil-military industrial complex. CAS is China's highest academic institution for comprehensive R&D in the natural and applied sciences, and it reports directly to the State Council in an advisory capacity. CAS works closely with NSFC, and much of its work contributes to products for military use. The NSFC and CMC Science and Technology Commission are key advisers on emerging and disruptive technologies and signed a five-year strategic cooperation agreement in August 2016 to collaborate on civil-military innovation and basic research for national defense.

Artificial Intelligence. China views AI as critical to its future military and industrial power. China is making strategic investments worldwide in AI to reap national security and economic benefits. AI is a central component in many of China's publicly released national plans. The Next Generation AI Plan details China's AI strategy and outlines China's goals of using commercial and military entities to gain parity with the world leaders in AI by 2020, achieving major breakthroughs in AI by 2025, and establishing China as the global leader in AI by 2030. The PRC is pursuing a whole-of-society effort to become a global leader in AI, which includes designating select private AI companies in China as "AI champions" to emphasize R&D in specific dual-use technologies. Many of these "AI champions," including Huawei and Hikvision, are major suppliers of AI surveillance technology worldwide. In 2019, the private PRC-based company Ziyan UAV exhibited armed swarming drones that it claimed use AI

to perform autonomous guidance, target acquisition, and attack execution. During the past five years, China has made achievements in AI-enabled unmanned surface vessels, which China plans to use to patrol and bolster its territorial claims in the South China Sea. China has also tested unmanned tanks as part of research efforts to integrate AI into ground forces' equipment.

MILITARY INDUSTRIAL BASE TRENDS

Key Takeaways

- Many of China's missile programs are comparable to other international top-tier producers; China can use aspects of the S-400 surface-to-air missile (SAM) system it began receiving from Russia in 2018 to reverse-engineer capabilities it lacks.
- China is the top ship-producing nation in the world by tonnage and has the capability to produce naval gas turbine and diesel engines as well as shipboard weapons and electronic systems, which makes it nearly self-sufficient for all shipbuilding needs.

Missile and Space Industry. Most of China's missile programs, including its ballistic and cruise missile systems, are comparable in quality to other international top-tier producers. China produces a wide range of missiles—ballistic, cruise, air-to-air, and surface-to-air—for the PLA and for export, and it continues to expand its missile test facilities. The PRC publicly debuted a new supersonic cruise missile and hypersonic glide vehicle during the 70th anniversary parade in October 2019. Also in 2019, China tested and deployed the advanced S-400 SAM systems it received from Russia in 2018. In 2018, China highlighted the development of its first beyond-visual-range air-to-air missile (AAM).

The PRC's space industry, historically managed by the PLA, is rapidly expanding its intelligence, surveillance, and reconnaissance (ISR), navigation and communication satellite constellations and making substantial strides in its space launch capabilities, human spaceflight, and lunar exploration programs. However, the PRC is placing greater emphasis on decentralizing and diversifying its space industry to increase competition, resulting in a complex structure of military, political, defense-industrial, and commercial sectors. China has developed a "quick response" space launch vehicle (SLV) to increase its attractiveness as a commercial small satellite launch provider and to rapidly reconstitute low Earth orbit space capabilities; its mixed-ownership enterprises offer remote sensing, launch, and communication services.

Naval and Shipbuilding Industry. China, the top ship-producing nation in the world by tonnage, is increasing its shipbuilding capacity and capability for all naval classes, including submarines, surface combatants, and transport and amphibious ships. China's two largest state-owned shipbuilders—the

China State Shipbuilding Corporation and the China Shipbuilding Industry Corporation, merged in November 2019 creating the world's largest shipbuilder as measured by production capacity. China domestically produces its naval gas turbine and diesel engines, as well as almost all shipboard weapons and electronic systems, making it nearly self-sufficient for all shipbuilding needs.

Armaments Industry. China's production capacity is improving in nearly every category of PLA ground systems, including armored personnel carriers, assault vehicles, air defense artillery systems, artillery systems and pieces, and main and light battle tanks. Notably, China began testing unmanned Type 59 tanks in November 2018. China can produce ground weapon systems at or near world-class standards; however, quality deficiencies persist with some exported equipment, which is inhibiting China's ability to expand its export markets.

Aviation Industry. China is advancing its domestic aviation industry through two major state-owned aircraft corporations, AVIC and the Commercial Aircraft Corporation of China (COMAC). AVIC designs and produces China's military aircraft including the J-20 fifth-generation fighter, the Y-20 large transport, and the future H-20 flying wing stealth bomber. COMAC produces large passenger aircraft and aims to compete in the commercial airliner market. COMAC is producing the ARJ21 regional jet, flight-testing the C919 airliner, and working with Russia to develop the CR929 wide-body airliner. China is the second-largest exporter of UAVs. However, China's aviation industry is unable to produce reliable high-performance aircraft engines and relies on Western and Russian engines, such as the Franco-American CFM Leap 1C that powers the COMAC C919 and the Russian D-30 that powers the Y-20 and H-6K and H6-N variants. China is developing the CJ-1000, AEF3500, and WS-20 high-bypass turbofan engines to power the C919, CR929, and Y-20, respectively.

S&T GOALS IN SUPPORT OF MILITARY MODERNIZATION

Key Takeaways

- China's effort to build national corporate champions that achieve rapid market dominance across a range of technologies directly complements the PLA's modernization efforts. The PRC intends to leverage its commercial sector to realize the PLA's modernization goals.
- China seeks to become a leader in key technologies with military potential, such as AI, autonomous systems, advanced computing, quantum information sciences, biotechnology, and advanced materials and manufacturing. China's implementation of AI and a quantum communication network demonstrates the speed and scale with which it intends to deploy certain emerging technologies.

- China has mobilized vast resources to fund research and subsidize companies involved in strategic S&T fields while pressing private firms, universities, and provincial governments to cooperate with the military in developing advanced technologies. China has also reorganized its military research institutions and key military think tanks to provide the PLA advanced capabilities and a modern warfighting doctrine.
- The PRC continues to undermine the integrity of the U.S. S&T research enterprise through a variety of actions such as hidden diversions of research, resources, and intellectual property.

China's S&T Goals and Plans. The PRC has issued an array of major national plans over the last decade that stress indigenous innovation and the rapid development of strategic S&T sectors, such as information and communications technology (ICT), high-end manufacturing, quantum technology, alternative energy, and biotechnology. The PRC's 13th Five-Year Plan calls for accelerating research on "majorly influential disruptive technologies" and the pursuit of "leapfrog" S&T developments in order to win "a competitive advantage in the new round of industry transformation." While slowly increasing funding for basic research, China has made comprehensive efforts to grow the country's inventive capabilities over the last decade.

- The 2017 National Artificial Intelligence Plan describes steps for China to become the "world's major AI innovation center" by 2030 and calls for the country to accelerate the integration of AI with the economy, society, and national defense. The plan foresees a great expansion in the "breadth and depth of AI applications in… national defense construction."
- Other plans address the development of various sectors of China's robust Internet ecosystem, including cloud computing, big data, e-commerce, and next-generation broadband wireless communications networks, including fifth-generation (5G) wireless networks. Due to information sharing requirements with the PRC's security services as required by PRC laws, worldwide expansion of 5G networks by PRC companies will challenge the security and resiliency of other countries' networks.

The commercial sector increasingly drives breakthroughs in advanced dual-use technologies, and PRC companies have research efforts aimed at generating breakthroughs in emerging technologies. China continues to execute "Made in China 2025," an ambitious industrial policy centered around "smart manufacturing," that seeks to create a vanguard of corporations in the PRC that are global leaders in ten strategic industries. These industries include new generation information technology, high-grade machine tooling and robotics; aerospace equipment; marine engineering equipment and high-tech ships; advanced rail transportation equipment; new-energy automobiles; electric power equipment; agricultural equipment; new materials; and biomedicine and high-tech medical devices. The plan

stresses the need to replace imported technology with domestically produced technology, a goal that corresponds with China's desire to reduce its reliance on other nations and develop a fully indigenous defense sector. In addition to presenting an economic challenge to nations that export high-tech products, the plan directly supports China's military modernization goals by stressing proprietary mastery of advanced dual-use technologies. China's leaders have used less inflammatory rhetoric regarding "Made in China 2025" in response to concerns from advanced industrial countries regarding the PRC's licit and illicit acquisition of intellectual property pursuant to that policy.

Heavy Government and Corporate Sector Investment. The PRC has mobilized vast resources to fund research and subsidize companies involved in strategic S&T fields while pressing private firms, universities, and provincial governments to cooperate with the military in developing advanced technologies. Although China remains reliant on certain types of foreign technology, the country's decades-long execution of a strategy of advancing domestic S&T and R&D through large-scale technology transfer has deepened the expertise of scientists and engineers in the PRC and placed them at, or near, the forefront of many scientific fields.

- The PRC's state investment funds established to support priority industries have marshalled hundreds of billions of dollars in capital.
- China expects to field an exascale computer based on domestically produced technology by 2020, ahead of the United States, the European Union, and Japan.
- China conducted the first quantum-secured intercontinental videoconference in September 2017 and plans to have a satellite-enabled, global, quantum-encrypted communications capability operational by 2030. China is also reportedly building the world's largest quantum research facility slated to open in the city of Hefei in 2020. China already has a 2,000 km secure quantum communication ground line between Beijing and Shanghai and plans to expand the line across China.
- In 2019, scientists in the PRC claimed to have developed a human brain-computer interface to send targeting information directly to a search-and-rescue drone. Also in 2019, a separate group of scientists claimed to have developed a brain-computer interface that enabled human-thought control of a rat in a maze, signifying China's interest advanced human-machine teaming technologies.

China's private sector, led by Internet companies Baidu, Alibaba, and Tencent and telecommunications equipment manufacturers Huawei and Zhongxing Telecommunications Company Ltd. (ZTE), is driving the development of emerging technologies, such as facial recognition

and 5G, by establishing innovation centers and funding technology startups, or in the case of 5G, competing to build the world's next-generation networks. PRC technology companies are also expanding into overseas markets, in some cases by offering smart city technologies, a development that could increase their access to foreign talent and data.

- In 2017, China designated Alibaba, Baidu, iFlytek, and Tencent as the country's official "AI Champions," with SenseTime joining in 2018. This designation gives these companies the lead for setting national technical standards and enables extensive cooperation with China's national security community. In 2019, China added ten new companies, including Huawei, Hikvision, Megvii, and Yitu, to the champions list.

- In November 2017, the PRC startup Yitu won a U.S. government-sponsored competition involving facial recognition technology. Yitu, along with other PRC AI and facial recognition firms like SenseTime, Megvii, and Deepglint, reportedly received hundreds of millions of dollars in investments in 2017. China is the world's largest market for video surveillance technologies.

- The 2017 National Intelligence Law requires PRC companies, such as Huawei and ZTE, to support, provide assistance, and cooperate in China's national intelligence work wherever they operate.

Potential Military Applications. China's pursuit of an innovation-driven economic model supports its goal of building a "modern and specialized military capable of fighting and winning wars in the information age." China intends to harness its commercial technology sector to accomplish the PLA's goal of intelligentized warfare. The PLA has reorganized a key military think tank—the Academy of Military Sciences (AMS)—and reasserted this organization's leadership of military science research programs. The CMC has tasked the revamped AMS to drive defense innovation, conduct enhanced academic outreach, and to ensure that the PLA's warfighting theory and doctrine fully capitalize on disruptive technologies like AI and autonomous systems.

- Researchers at the China Academy of Sciences reportedly developed an early version of an AI-powered decision-support system that the PRC Ministry of Foreign Affairs is field-testing with its diplomats. The system uses deep learning and a neural network for "geopolitical environment simulation and prediction."

The PRC is pursuing a number of advanced military capabilities with disruptive potential such as hypersonic weapons, electromagnetic railguns, directed energy weapons, and counterspace capabilities. The country's effort to build national corporate champions that achieve rapid market dominance across a range of frontier technologies directly complements the PLA's modernization efforts and

carries serious military implications. Given China's willingness to deploy emerging technologies rapidly and at massive scale as well as China's focus on MCF, the PLA would likely quickly benefit from any scientific breakthroughs with military utility. Potential military applications of some emerging technologies include:

- *AI and Advanced Robotics*: enhanced data exploitation, decision support, manufacturing, unmanned systems, and command, control, communications, computers, intelligence, surveillance, and reconnaissance (C4ISR).
- *Semiconductors and Advanced Computing*: enhanced cyber operations and weapons design, and shortened R&D cycles.
- *Quantum Technologies*: secure global communications, enhanced computing and decryption capabilities, undersea target detection, and enhanced submarine navigation.
- *Biotechnology*: enhanced warfighter selection and performance, advanced human-machine teaming.
- *Hypersonic and Directed Energy Weapons*: global strike and defeat of missile defense systems, anti-satellite (ASAT)/missile/ unmanned aircraft system capabilities.
- *Advanced Materials and Alternative Energy*: improved military equipment and weapon systems.

FOREIGN TECHNOLOGY ACQUISITION

Key Takeaways

- The PRC pursues many vectors to acquire foreign technologies, including both licit and illicit means. The PRC's efforts include a range of practices and methods to acquire sensitive and dual-use technologies and military-grade equipment to advance its military modernization goals.
- The PRC leverages foreign investments, commercial joint ventures, mergers and acquisitions, and state-sponsored industrial and technical espionage, and the manipulation of export controls for the illicit diversion of dual-use technologies to increase the level of technologies and expertise available to support military research, development, and acquisition.
- In 2019, the PRC's efforts included efforts to acquire dynamic random access memory, aviation, and anti-submarine warfare (ASW) technologies.

In 2019, the PRC continued to supplement its national S&T and industrial modernization by obtaining foreign technologies and knowledge through a variety of means both licit and illicit. China is investing

in and seeking to acquire critical technologies that will be foundational for future innovations both for commercial and military applications, including AI, robotics, autonomous vehicles, quantum information sciences, augmented and virtual reality, financial technology, and biotechnology. The line demarcating products designed for commercial versus military purposes is blurring with these new technologies. *Imports*: China acquires dual-use, export controlled technology by applying for licenses through the U.S. Department of Commerce. The majority of China's imports have traditionally been electronic and materials processing and test, inspection, and production equipment.

Activities Supporting China's Military Modernization. The PRC is actively pursuing an intensive campaign to obtain foreign technology through imports, foreign direct investment, talent recruitment, and R&D and academic collaborations. The PRC uses a variety of licit means to acquire foreign technology and knowledge to supplement its S&T industrial base, including its military-industrial base. These efforts include:

- *Imports.* China acquires technology via imports and transfers from foreign industries. U.S. industry transfers dual-use export controlled technologies to China by applying for export licenses through the Department of Commerce.
- *Foreign Direct Investment.* China invests in or outright purchases foreign companies that have technology, facilities, and people working in key technology areas.
- *Talent Recruitment.* The PRC uses various incentive strategies to attract foreign personnel to work on and manage strategic programs and fill technical knowledge gaps. For example, Beijing's "Thousand Talents Program," recruits individuals from PRC diaspora populations, persons with familiar ties or ties of affection in the PRC, recent emigrants from the PRC, and foreign national experts whose recruitment the PRC views as necessary to its scientific and technical modernization, especially with regard to defense technology.
- *Research and Development and Academic Collaborations.* China actively seeks partnerships with private, government, and academic research labs to gain exposure to cutting-edge technology and researchers. These partnerships also provide China with the technical expertise to run, manage, and organize such facilities.

In several of these areas, China's methods and practices undermine the integrity of the U.S. science and technology research enterprise. These actions include hidden diversions of research and/or resources, undermining peer review and grant award processes, failing to provide reciprocity for scientists and institutions engaged in scientific research, and violating the principles of impartiality and

objectivity in scientific research that guard against improper influence and the distortion of scientific knowledge.

ESPIONAGE ACTIVITIES SUPPORTING CHINA'S MILITARY MODERNIZATION.

Multiple U.S. criminal indictments since 2015 involve PRC nationals, naturalized U.S. citizens or permanent resident aliens from the PRC, and U.S. citizens, procuring and exporting controlled items to China, according to a U.S. Department of Justice summary of major U.S. export enforcement, economic espionage, and sanctions-related criminal cases. The PRC's efforts to acquire sensitive, dual-use, or military-grade equipment included radiation hardened integrated circuits, monolithic microwave integrated circuits, accelerometers, gyroscopes, naval and marine technologies, syntactic foam trade secrets, space communications, military communication jamming equipment, dynamic random access memory, aviation technologies, and ASW technologies. Recent cases include:

- In October 2019, a PRC national was sentenced to 40 months in prison for conspiring to export military- and space-grade technology illegally from the United States to China. The PRC national worked with other individuals in China to purchase radiation-hardened power amplifiers and supervisory circuits used for military and space applications.

- In November 2018, a PRC national residing in the United States was charged with conspiring to export devices with military applications to PRC government and military actors. The PRC national fulfilled instructions from the PLA to obtain dual-use technology used for ASW and other advanced military capabilities. This included remotely operated side scan sonar systems, hydrophones, robotic boats, unmanned underwater vehicles, and unmanned surface vehicles.

- In October 2018, a group of PRC Ministry of State Security (MSS) intelligence officers, associated cyber actors, and other co-conspirators were indicted on charges of conspiring to steal sensitive technological information related to turbofan engines used in commercial airliners. At the time of the intrusions, a PRC state-owned enterprise (SOE) was developing a comparable engine for use in commercial aircraft manufactured in China and elsewhere.

- In October 2018, an MSS officer was arrested and charged with economic espionage involving the of trade secrets for civilian and military aircraft technology related to engineering services and signature material, advanced communication systems, jet engines and aircraft propulsion, and engine containment structures from leading U.S. aviation firms. In addition, the officer targeted industry experts for recruitment by facilitating travel to China under the guise of delivering

university presentations. The intelligence officer also provided monetary compensation and other forms of reimbursement to these experts.

> In September 2018, a PRC SOE was implicated in a conspiracy to commit economic espionage through the theft, conveyance, and possession of stolen trade secrets from a U.S. semiconductor company. The U.S. company is a global leader in the semiconductor industry and specializes in dynamic random-access memory (DRAM). China identifies DRAM development as a national priority.

Illicit Diversion of Dual-Use Technologies Supporting China's Military Modernization. One of the key tenets of the U.S. export control system is the expectation that the applicant, the foreign end-user and their affidavits on how the technology will be used are truthful and genuine. The PRC's laws and its Military Civil-Fusion Development Strategy, however, means that civil-end use exports can be diverted without the exporter's knowledge. The PRC's *National Intelligence Law* and *National Security Law* provide the legal authority for the PRC to compel civilian companies in China to hand over U.S. and other foreign-origin technologies, including dual-use technologies. MCF through top-down direction for deeper integration, resource sharing, and interoperability between China's civilian and military sectors further muddies the waters between a civil end user and military end user.

The PRC has learned how to structure exports in a manner to help it circumvent U.S. export controls, sometimes outright deceiving an exporter on the end user and end use and other times providing the exporter with the veneer of a legal end user and end use. For example, in 2012, a Western defense company plead guilty to violating the U.S. Arms Export Control Act for exporting restricted U.S. defense technology to China that was used in the development of the PLA's first modern military attack helicopter, the Z-10. According to the Department of Justice press release, China sought to develop its military attack helicopter under the guise of a civilian medium helicopter program in order to secure Western assistance. The release states that while the company knew that supplying China's Z-10 project with U.S.-origin components would be illegal, the PRC importer claimed it was developing a civilian version of the helicopter in parallel with the military version. Anticipating its work on China's military attack helicopter would open the door to a far more lucrative civilian helicopter market in China, the company "purposely turned a blind eye to the helicopter's military application." The company determined on its own that its exports for the Z-10 did not constitute "defense articles" requiring a U.S. export license. In 2018, a PRC national was charged with violating export laws for exporting 60 hydrophones, used to detect and monitor sound underwater, without obtaining export licenses and concealing that a military research institute in the PRC was the true end-user.

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U.S.-CHINA DEFENSE CONTACTS AND EXCHANGES

Key Takeaways

- DoD engagement with China supports overall U.S. policy and strategy toward China.
- DoD's defense contacts and exchanges with China in 2019, which included multiple senior level engagements, helped advance the Department's effort to build a constructive results-oriented defense relationship with China.

U.S. defense contacts and exchanges conducted in 2019 supported overall U.S. policy and strategy toward China. The 2017 *National Security Strategy*, the 2018 *National Defense Strategy*, the 2018 *Nuclear Posture Review*, and the 2019 *Missile Defense Review* recognize the growing trend of military competition in a dynamic security environment. The United States will compete from a position of strength while encouraging China to cooperate with the United States on security issues where our interests align. DoD engagements with China are limited, and focused, on reducing risk and preventing misunderstanding in times of increased tension. Engagements are conducted in accordance with the statutory limitations of the National Defense Authorization Act for Fiscal Year 2000, as amended.

Defense contacts and exchanges with China seek to build the structures and habits necessary to prevent, defuse, and manage crises. In 2019, DoD's plan for defense contacts and exchanges with China focused on three interconnected priorities: (1) encouraging China to act in ways consistent with the free and open international order; (2) promoting risk reduction and risk management to limit the potential for misunderstanding or miscalculation; and (3) establishing the communications mechanisms necessary to de-escalate incidents before they become crisis or conflict.

The pace and scope of the PRC's military modernization and expansion provides opportunities as well as challenges for U.S. defense relations. As the PRC's military develops and expands its reach globally, the risk of an accident or miscalculation also increases, putting a premium on risk reduction efforts and highlighting the need to ensure the operational safety of forces operating in close proximity, as well as the need to establish crisis communication mechanisms.

Pursuit of a constructive results-oriented relationship with China is an important part of U.S. strategy in the Indo-Pacific region. The 2018 *National Defense Strategy* seeks areas of cooperation with China from positions of U.S. strength, with a long-term objective to set the military-to military relationship on a path of strategic transparency and non-aggression, and to encourage China to act in a manner consistent with the free and open international order.

DEFENSE CONTACTS AND EXCHANGES IN 2019

Key Takeaways

- High-level contacts enable U.S. leaders to challenge PRC behaviors that are inconsistent with the free and open international order, gain insight into China's strategic intent, manage differences, and cooperate where our interests align.
- For example, the Secretary of Defense met with the PRC Minister of National Defense on the sidelines of multinational events several times during the year.
- Recurring exchanges serve as a mechanism for dialogue at the strategic and policy-levels, including risk reduction and practical cooperation.
- Functional engagements focus on risk reduction and communication to promote operational deconfliction and coordination.
- Exchanges improve the ability to interact and coordinate in providing international public goods in areas of mutual interest.

DoD conducts all contacts with China in a manner consistent with the relevant provisions of the National Defense Authorization Act for Fiscal Year 2000, as amended.

In 2019, the U.S. and China defense relationship focused on strategic communications and reducing the risk of misunderstanding or miscalculation.

DoD continued to make progress with the People's Liberation Army (PLA) in developing the capacity to cooperate in multilateral settings. The two militaries participated in a Disaster Management Exchange with an emphasis on deconfliction in a Multinational Coordination Cell. Such examples of defense engagement enable risk reduction and enhance understanding of how each side responds to humanitarian disasters. As the 2018 *National Defense Strategy* states, the United States is "open to opportunities for cooperation but from a position of strength and based on our national interests. Should cooperation fail, we will be ready to defend the American people, our values, and interests."

Selected visits and exchanges are below. A complete list of 2019 engagements is in Appendix II.

High-Level Visits and Engagements. High-level contacts are an important means to exchange views on the international security environment, to identify areas of common interest, to manage

differences, and to facilitate common approaches to shared challenges. Discussions focused on areas of military cooperation and candidly addressed differences.

Then-Acting Secretary of Defense Patrick Shanahan met General Wei Fenghe, Minister of National Defense, on the sidelines of the International Institute for Strategic Studies (IISS) Shangri-La Dialogue in Singapore on May 31. Additionally, Secretary of Defense Mark Esper met General Wei at the annual Association of Southeast Asian Nations (ASEAN) Defense Ministers' Meeting-Plus (ADMM-Plus) in Thailand in November. At both meetings, the Secretaries engaged on strategic topics, discussed differences, and affirmed a strong commitment to a constructive, stable, results-oriented bilateral relationship.

Chief of Naval Operations Admiral John Richardson visited Beijing in January 2019. However, the PRC delayed a counterpart visit in the United States between the Chief of the PLA's Joint Staff Department, General Li Zuocheng, and then-Chairman of the Joint Chiefs of Staff, General Dunford. Similarly, the PRC delayed a visit by the U.S. Indo-Pacific Command (USINDOPACOM) Commander to the PRC.

In 2019, the PRC accepted several requests for the use of the Defense Telephone Link (DTL) or Video Teleconference (VTC). Six high level VTCs occurred, including the first initiated by the PRC in May between the PLA's Office of International Military Cooperation Deputy Director, Major General Huang Xueping, and Acting Deputy Assistant Secretary of Defense for East Asia Mary Beth Morgan. The DTLs and VTCs contribute to establishing regular communications and confidence building between senior defense leaders. While these DTLs allow communications with the PLA, the Department continues to work to build the systems necessary to communicate rapidly and effectively to prevent incidents from escalating into crises.

In August 2019, Deputy Assistant Secretary of Defense for China (DASD) Chad Sbragia hosted a PRC delegation in Washington D.C. to discuss the contents of China's recently released defense white paper titled China's National Defense in the New Era. Major General Huang Xueping, Deputy Director of the Office of Interational Military Cooperation (OIMC) led the PRC delegation. The meeting was consistent with the Memoradum of Understanding on Notification of Major Military Activties Confidence Building Measure Mechanism to gain a better understanding of China's national defense policy. The U.S. delegation included representatives from the Office of the Secretary of Defense, the Joint Staff, the State Department, and the National Security Council staff.

In October 2019, DASD Chad Sbragia attended Beijing's Ninth Xiangshan Forum. DASD Sbragia offered brief remarks on "A Future-Oriented Asia-Pacific Security Architecture," and conducted official meetings Major General Huang Xueping (OIMC).

Recurrent Exchanges. Recurring exchanges form the backbone of U.S.-China defense discussions each year. They serve as regularized mechanisms for dialogue at the strategic and policy levels on risk reduction, crisis communication, and areas for cooperation.

In June 2019, the Military Maritime Consultative Agreement (MMCA) Working Group met in Qingdao to improve operational safety through open communication between U.S. and PLA naval and air forces. In November 2019, the MMCA Working Group and MMCA Plenary convened in Honolulu. Major General Stephen Sklenka, Director for Strategic Planning and Policy, USINDOPACOM, and representatives from U.S. Pacific Fleet, U.S. Pacific Air Forces, U.S. Africa Command (USAFRICOM), and U.S. Coast Guard met with a PLA Navy (PLAN) and PLA Air Force (PLAAF) delegation led by Rear Admiral Wu Dongzhu, PLAN Deputy Chief of Staff. Both sides reviewed the operational safety situation over the last year and discussed implementation and assessment of the Rules of Behavior for Safety of Air and Maritime Encounters Memorandum of Understanding.

The Defense Policy Coordination Talks (DPCT) are an annual dialogue, The 2019 DPCTs were postposed to January 2020. Deputy Assistant Secretary of Defense for China Chad Sbragia participated in the Defense Policy Coordination Talks in Beijing with Major General Huang Xueping, Deputy Director, Office for International Military Cooperation (OIMC). The U.S. delegation included representatives from the Joint Staff, USINDOPACOM, and the State Department. The leaders discussed how to reshape the U.S.-China military contacts and exchanges to achieve the goals of risk reduction, crisis communications, cooperation, and confidence building.

In May 2019. Assistant Secretary of Defense for Indo-Pacific Security Affairs Randall Schriver co-hosted the 3rd Asia-Pacific Security Dialogue (APSD) in Washington DC with Major General Ci Guowei, Director, OIMC. The U.S. delegation included representatives from Joint Staff, USINDOPACOM, and the State Department. The leaders discussed regional security issues, the South China Sea, North Korea, and the enforcement of United National Security Council Resolutions.

Functional and Academic Exchanges. Functional engagements focus on advancing risk reduction, understanding, and communication channels to promote deconfliction and coordination. Functional

exchanges such as port calls are also used to enhance operational safety and exercise communications and navigation protocols.

In March 2019, a U.S. Air Force Air War College delegation visited their PLA Air Force Command College counterparts in Beijing. In April, the U.S. National War College and China's National Defense University exchanged visits, with the U.S. National War College conducting a research seminar in China and China's National Defense University operational command course "Tigers" visiting the United States. In May, the U.S. Marine Corps War College visited China, followed by a visit to the United States by PLA general officers in the strategic-level "Dragons" course from the PLA National Defense University, and a visit by the PLA Air Force Command College to the U.S. Air Force Air War College. In June, PLA Navy Command College students visited the U.S. Naval War College. In July, the presidents of both countries' national defense universities conducted their biennial meeting, followed by the U.S. National Defense University CAPSTONE visit of new U.S. general and flag officers to China. In December 2019, the U.S. Naval War College visited the PLA Navy Command College as a reciprocal exchange event for the June visit. These visits and other academic exchanges during the year offered an opportunity to increase understanding of China and the Indo-Pacific through engagements with various echelons of the PLA.

In November 2019, PLA and U.S. Army soldiers participated in a Disaster Management Exchange in Hawaii. U.S. Army Pacific Commander, General Paul LeCamera, met with Major General Xu Qiling, Commander of the PLA Eastern Theater Command Army. The exchange focused on HADR in a volcano eruption scenario in a third country in which both armies would interact as part of a Multinational Coordination Center using the ASEAN standard operating procedures.

PLANNING FOR DEFENSE CONTACTS AND EXCHANGES IN 2020

A list of planned engagements for 2020 is provided in Appendix II. Although the U.S. and China agreed at the January 2020 Defense Policy Consultative Talks on a series of military contact events to occur during 2020, the ongoing COVID-19 pandemic has necessitated delaying or cancelling events.

SPECIAL TOPIC: THE PRC'S 2019 DEFENSE WHITE PAPER

In July 2019, the PRC's State Council Information Office released a new white paper on defense titled, *China's National Defense in the New Era*. Typically published biennially, this is the PRC's tenth defense white paper since 1998 and the first to be published since 2015, the same year the PRC began extensive reforms of its armed forces. The defense white papers represent authoritative statements from the PRC government on its defense and security policies. The PRC publishes these papers to portray itself as transparent and shape international and domestic perceptions in accordance with CCP-approved priorities. The white papers also amplify preexisting messaging, as the 2019 paper is largely consistent with remarks made by China's leaders at the 19th Party Congress in 2017, which set the CCP's expectations for the PLA in the "New Era."

In August 2019, the PLA dispatched delegations to brief the white paper to foreign audiences. PLA officials from the Central Military Commission's (CMC's) Office of International Military Cooperation led a delegation to brief audiences at the Pentagon, National Defense University, and Center for Naval Analyses.

Perceptions of the Global Security Environment. The PRC's defense white papers can offer insights into how China's leaders view global affairs. *China's National Defense in a New Era* claims that China remains in the "period of strategic opportunity," but describes the international security environment as marred by increased "strategic competition," the growing prospect of nuclear arms racing, and shifting towards greater multi-polarity. The paper primarily blames the United States for increasing global and regional tension, and characterizes U.S. pursuit of "absolute military supremacy" as increasing international strategic competition. This characterization of the United States differs from the PRC's 2015 defense white paper that vaguely referenced growing threats from "hegemonism." The paper repeated the PRC's longstanding policy of seeking unification with Taiwan while underscoring its right to use force against Taiwan if necessary, and specifically cited the Democratic Progressive Party of President Tsai Ing-wen as a primary source of hostility and a threat to peace, a first for a defense white paper. In response to its perceptions of the international security environment, the PRC elaborated its own vision for the international order in its concept of a "community with a shared future for mankind." Although China frequently describes its vision for this community, the latest defense white paper notably draws a direct link between the PRC's global military activities and the wellbeing of its community concept.

Justification for Expanding Overseas. The CMC has tasked the PLA with defending the PRC's overseas interests and citizens, and provides its justification in the defense white paper for the PLA's expanding global footprint. The paper states that in order to address deficiencies in overseas operations and support, the PRC has continued to improve its naval forces, develop overseas logistical facilities, and enhance the military's capability to complete diversified tasks. The paper also depicts the PLA's presence abroad as a benefactor to the regions where the PLA operates and the international

system as a whole, arguing that the international community is becoming more dependent on the PLA's support. The PLA base in Djibouti, for example, is touted for offering medical and military assistance, and for providing local donations to schools. Additionally, the paper portrays the PLA as positively contributing to UN peacekeeping operations, counterterrorism efforts, maritime security, and disaster relief as a provider of "international public security goods." Probably due to concerns generated by the PLA's expending presence and, the PRC's white paper tries to assure audiences that the PLA acts responsibly and appropriately while defending the PRC's interests.

Building a National Defense Policy System. China is developing a national defense policy and military policy decision-making and implementation system. It is an outcome of the major reforms the PLA has undergone since 2015, and this system was described as "the biggest difference compared to past white papers." The national defense policy system will provide the organization and authorities for the PLA to develop and implement policy. The system includes the 15 offices organized under the CMC staff and the recently formed theater commands. It is unclear how the Central National Security Commission (CNSC) is involved with this system.

Status of 2020 Milestones (Mechanization and Reform). The PLA might be unable to meet some of its near-term modernization and reform milestones that it planned to achieve by 2020. Among the PLA's modernization goals set by the CCP leadership is to "generally achieve mechanization" by 2020. However, the PRC's 2019 defense white paper noted that the PLA had "yet to complete the task of mechanization," suggesting it was also unlikely that the PLA would achieve this goal by the end of 2020. Additionally, PLA officials have indicated that the third (and final) stage of PLA reforms would take place in 2021 or 2022. The PRC's original timetable from late 2015 for the completion of the PLA's reforms indicated that 2020 was the target for completion. References to 2021 or 2022 may imply the PLA is a year or two behind in completing its reforms. Both of these years are significant for the Party and its strategy. The Party aims for China to achieve its "moderately prosperous society" goal by the CCP's centenary in 2021. The CCP will also hold its 20th Party Congress in 2022.

SPECIAL TOPIC: PLA'S APPROACH TOWARD INFORMATIZATION AND INTELLIGENTIZATION, INCLUDING ARTIFICIAL INTELLIGENCE

The People's Liberation Army (PLA) sees emerging technologies as driving a shift to "intelligentized" warfare from today's "informatized" way of war. PLA strategists broadly describe intelligentized warfare as the operationalization of artificial intelligence (AI) and its enabling technologies, such as cloud computing, big data analytics, quantum information, and unmanned systems, for military applications. These technologies, according to PRC leaders—including Chairman Xi Jinping—represent a "Revolution in Military Affairs" for which China must undertake a whole-of-government approach to secure critical economic and military advantages against advanced militaries.

China seeks to lead the shift to "intelligentized warfare" through its Military-Civil Fusion (MCF) Development Strategy and by reforming both its research and development (R&D) as well as strategy and doctrine organizations. In 2015, the PRC elevated MCF to a national strategy, and it continues to establish new organizations and promulgate policies to drive development of dual-use technologies and further integrate civilian and military administration. In 2017, the PLA reorganized its military research and education institutes to synchronize advances in emerging technologies with the development of new operational concepts. The Academy of Military Science (AMS), which has traditionally been responsible for writing new doctrine, now oversees several PLA science and technology institutes.

The PLA argues that the implementation of "intelligentized" capabilities will increase the speed of future combat, necessitating more rapid processing and fusing of information to support quick and efficient command decision making. Victory in future warfare, according to PLA strategists, will depend upon which side can more quickly and effectively observe, orient, decide, and act in an increasingly dynamic operating environment. As a result, China is pursuing new technologies like AI to support future military capabilities, such as autonomous command and control (C2) systems, more sophisticated and predictive operational planning, and intelligence, surveillance, and reconnaissance (ISR) fusion. In addition, the PLA is developing more capable command information systems and decision aids for battlefield commanders. Future command, control, communications, computers, intelligence, surveillance, and reconnaissance (C4ISR) systems will seek to use AI to collect, fuse, and transmit big data for more effective battlespace management and to generate optimal courses of action.

PLA strategists recognize the importance of information superiority during a conflict. The PLA has emphasized the need for the capabilities to target and degrade adversary command and control systems and future AI systems. As such, the PLA plans to employ technologies associated with intelligentized warfare to support the deployment of autonomous unmanned systems and conduct information operations (IO). PRC weapons developers are researching new unmanned aerial, surface, sub-surface, and ground vehicles that will enable new operational concepts and require new C2 models. The PLA is pursuing greater autonomy for unmanned platforms, to include swarm intelligence and

manned-unmanned teaming capabilities, to provide more lethal kinetic that and nonkinetic strike options that can saturate adversary defenses as well as more survivable and long-distance ISR capabilities, among other applications. The PLA also intends to improve its cyber and electronic warfare (EW) capabilities through AI-assisted network vulnerability analysis, countermeasure identification, and electromagnetic spectrum management.

PLA discussions of "intelligentized warfare" also acknowledge the difficulties of developing future technologies and implementing new capabilities. The delegation of decision-making authorities to lower echelons may run counter to the PLA's traditionally hierarchical and centralized C2 structure. The PLA's ability to leverage big data will depend upon its ability to obtain large quantities of high-quality data on foreign militaries. Additionally, the complexity of future conflict probably will challenge the PLA to recruit, train, and retain the highly competent and technically proficient personnel necessary to understand and operate future "intelligentized" systems.

SPECIAL TOPIC: EMERGING MILITARY CAMPAIGN CONCEPTS

The People's Liberation Army's (PLA) will likely need to update its existing doctrine, concepts, and campaigns to adapt to the long-term trends in global military affairs, meet the PRC's evolving national security needs, and account for the significant changes in the PLA's structures and capabilities. Evolving campaign concepts will aim to advance the PLA's goal to become a fully modern and "informatized" force by 2035. Going forward, PLA strategists envision further improving joint operations and shifting towards "intelligentized warfare," defined by the application of artificial intelligence (AI) and other advanced technologies, driving additional campaign development.

As PRC leaders push the PLA to operate in defense of China's expanding national interests, the PLA will develop concepts and capabilities to conduct force projection and defensive operations that expand China's strategic space farther from mainland China. New PLA campaign concepts also will attempt to integrate these new missions and capabilities across theater commands and in new domains, like cyber and space. For example, the creation of the Strategic Support Force (SSF) and the PLA's growing cyber, space, and electronic warfare (EW) capabilities will require campaigns that expand upon PLA notions of space confrontation operations by integrating space and terrestrial activates into multi-domain joint operations. Future campaigns may also integrate far seas air and naval operations. PLA strategists also discuss the need to secure air, maritime, and information superiority at greater distances, which could entail campaign concepts that integrate joint forces—possibly to include forces deployed to overseas bases—to execute operations abroad, such as in the western Pacific and Indian Ocean. These operations will require a mature command and control (C2) organizations and processes for overseas operations that effectively divide responsibilities between the Central Military Commission (CMC), theater commands, and services.

What is a Campaign?

The PLA has developed a series of "campaigns" that outline operational military activities to achieve China's strategic objectives. These campaigns incorporate activities across the PLA for contingencies ranging from border defense to large-scale multinational war. PLA joint campaigns—those that feature forces of two or more services under a joint command, like a theater command—include offensive campaigns, such as joint firepower strike, island blockade, or island offensive operations, and defensive campaigns like air defense, border defense, and counter-landing operations.

Future campaigns could also include guidance to conduct non-war military activities (NWMA) and operate with foreign militaries. Overseas operations, such as the PLA's participation in peacekeeping operations, can help the PLA develop tactics, techniques, and procedures to inform future campaigns that include humanitarian assistance/disaster relief (HA/DR) and noncombatant evacuation operations. In addition, an increase in bilateral and multilateral engagement with foreign militaries, including Russia, Pakistan, and the Association of Southeast Asian Nations (ASEAN) can improve the PLA's ability to organize and manage combined operations that integrate foreign forces.

APPENDIX I: CHINA AND TAIWAN FORCES DATA

The data in this year's report is derived from a new methodology that may result in significantly different numbers than shown in previous reports, but does not necessarily reflect a sudden change in capability.

Taiwan Strait Military Balance, Ground Forces

	China		Taiwan
	Total	Eastern and Southern Theaters	Total
Total Ground Force Personnel	1,030,000	412,000	88,000**
Group Armies	13	5	3
Combined Arms Brigades	78	30 (6 amphibious)	N/A
Mechanized Infantry Brigades	N/A		3
Motorized Infantry Brigades			6
Armor Brigades			4
Air Assault/Army Aviation Brigades	15	5	2
Artillery Brigades	15	5	3
Airborne Brigades	7*	7	0
Marine Brigades	8*	4	3
Tanks	6,300		800
Artillery Pieces	6,300		1,100

Note: For the purposes of this document, the "Taiwan Strait Area" includes the PLA's Eastern and Southern Theater Commands.

*Although counted as ground forces for the purposes of this chart, China's airborne brigades belong to the PLA Air Force (PLAAF) Airborne Corps and the marine brigades to the PLA Navy Marine Corps (PLANMC).
**Counts only active-duty Army personnel.

Taiwan Strait Military Balance, Naval Forces

	China		Taiwan
	Total	*Eastern and Southern Theater*	*Total*
Aircraft Carriers	2	1	0
Cruisers	1	0	0
Destroyers	32	23	4
Frigates	49	37	22
Corvettes	49	39	0
Tank Landing Ships/ Amphibious Transport Dock	37	35	14
Medium Landing Ships	21	16	0
Diesel Attack Submarines	46	32	2
Nuclear Attack Submarines	6	2	0
Ballistic Missile Submarines	4	4	0
Coastal Patrol (Missile)	86	68	44
Coast Guard Ships	255*	N / A	23

Note: In the event of a major Taiwan conflict, the PLA's Eastern and Southern Theater Navies would participate in direct action against the Taiwan Navy. The Northern Theater Navy (not shown) would be responsible primarily for protecting the sea approaches to China, but could provide mission-critical assets to support the other fleets. In conflict, China may also employ China Coast Guard (CCG) and People's Armed Forces Maritime Militia (PAFMM) ships to support military operations.

*China's coast guard ships belong to the China Coast Guard (CCG), which is subordinate to the People's Armed Police (PAP).

Taiwan Strait Military Balance, Air Forces

	China		Taiwan
	Total	Eastern and Southern Theater	Total
Fighters	1,500 (2,700*)	600 (750*)	400 (500*)
Bombers/Attack	450	250	0
Transport	400	20	30
Special Mission Aircraft	150	100	30

Note: This chart displays estimated totals of operational military aircraft from both PLAAF and PLAN Aviation. However, the PLAAF may supplement its military transports with civilian aircraft in a combat scenario. Note that approximately 800 of the PLAAF/PLAN Aviation's total fighters are at least modern fourth-generation aircraft.

*The totals in parentheses include fighter trainers.

China's Rocket Force

System	Launchers	Missiles	Estimated Range
ICBM	100	100	>5,500km
IRBM	200	200+	3,000-5,500km
MRBM	150	150+	1,000-3,000km
SRBM	250	600+	300-1,000km
GLCM	100	300+	>1,500km

APPENDIX II: DEFENSE CONTACTS AND EXCHANGES

U.S.-CHINA MILITARY-TO-MILITARY CONTACTS FOR 2019	
HIGH-LEVEL VISITS TO CHINA	***Month (2019)***
Chief of Naval Operations	January
ENGAGEMENTS	
PRC Defense White Paper Delegation in the United States	August
Beijing's Ninth Xiangshan Forum	October
RECURRENT EXCHANGES	
Asia Pacific Security Dialogue in the United States	May
Military Maritime Consultative Agreement Working Group in China and the Working Group and Plenary in the United States	June / November
Defense Policy Coordination Talks in China	January 2020
ACADEMIC EXCHANGES	
U.S. Air War College Delegation to China	March
U.S. National War College Delegation to China	April
PLA National War College Delegation to the United States	April
PLA Air Force Command College Delegation to United States	May
U.S. Marine Corps War College Delegation to China	May
PLA National Defense University Delegation to United States	May
PLA Navy Command College Delegation to the United States	June
National Defense University Presidents Meeting	July
U.S. National Defense University CAPSTONE Delegation to China	July
U.S. Naval War College Delegation to China	December
FUNCTIONAL EXCHANGES	
Disaster Management Exchange in China	November

U.S.-CHINA MILITARY-TO-MILITARY EXCHANGES PLANNED FOR 2020

HIGH-LEVEL VISITS TO CHINA

U.S. Senior Defense or Military Leader to China (TBD)

HIGH-LEVEL VISITS TO UNITED STATES

PRC Senior Defense or Military Leader to the United States (TBD)

PLA Navy Delegation to International Sea Symposium
Commander, Southern Theater

INSTITUTIONALIZED EXCHANGES

Defense Policy Coordination Talks (TBD)

MMCA Plenary and Working Groups (TBD)

Defense Consultative Talks (TBD)

Asia-Pacific Security Dialogue (TBD)

ACADEMIC EXCHANGES

PRC Academy delegation to the United States (TBD)

U.S. NDU or Academy delegation to China (TBD)

FUNCTIONAL EXCHANGES

Disaster Management Exchange (TBD)

APPENDIX III: SELECTED PLA BILATERAL AND MULTILATERAL EXERCISES IN 2019

Selected PLA Bilateral and Multilateral Exercises in 2019		
Exercise Name	**Type of Exercise**	**Participants**
WARRIOR VI	Counter-terrorism	Pakistan
Joint Strike-2019	Counter-terrorism	Thailand
Aman-2019	Multi-national naval exercise	Pakistan
Golden Dragon-2019	Joint exercise	Cambodia
Joint Maritime Drill-2019	Multi-national naval exercise	ASEAN
Joint Sea-2019	Naval exercise	Russia
Blue Commando-2019	Naval exercise	Thailand
Khan Quest 2019	Multi-national PKO exercise	Mongolia
Combined Aid	Medical exercise	Germany
Exercise Cooperation	Counter-terrorism	Singapore
Cooperation-2019	Counter-terrorism	Tajikistan
Peace Train-2019	Humanitarian / medical exercise	Laos
Falcon Strike-2019	Air exercise	Thailand
TSENTR-2019	Multi-national joint exercise	Russia
Sincere Partners-2019	Joint land forces training	Tanzania
Shaheen VIII	Air exercise	Pakistan
Fox Hunting-2019	Counter-terrorism	Kazakhstan
Mosi-2019	Maritime security and trade, HA/DR	Russia, South Africa
Maritime Security Belt-2019	Counter-piracy	Russia, Iran

APPENDIX IV: CHINA'S TOP CRUDE SUPPLIERS IN 2019

China's Top Crude Suppliers 2019		
Country	**Volume (1,000 barrels/day)**	**Percentage of Imported Crude Oil**
Saudi Arabia	1,669	16
Russia	1,555	15
Iraq	1,037	10
Angola	949	9
Brazil	804	8
Oman	678	7
Kuwait	454	4
UAE	306	3
Iran	296	3
Colombia	263	3
Others	2,120	21
Total	**10,131**	**99**

Numbers may not equal 100, as figures have been rounded.

APPENDIX V: ACRONYMS

3PLA	General Staff Department's Third Department
4PLA	General Staff Department's Fourth Department
5G	fifth-generation
A2/AD	anti-access/area-denial
AAM	air-to-air missile
AEW&C	airborne early warning and control
AGI	intelligence collection ship
AGOS	ocean surveillance ship
AI	artificial intelligence
ALBM	air-launched ballistic missile
ALCM	air-launched cruise missile
AMS	Academy of Military Science
AOE	fast combat support ship
AOR	replenishment oiler
APT	Advanced Persistent Threat
ASAT	anti-satellite
ASBM	anti-ship ballistic missile
ASCM	anti-ship cruise missile
ASEAN	Association of Southeast Asian Nations
ASM	air-to-surface missile
ASW	anti-submarine warfare
AU	African Union
AVIC	Aviation Industry of China
BMD	ballistic missile defense
BRICS	Brazil, Russia, India, China, and South Africa
C2	command and control
C4I	command, control, communications, computers, and intelligence
C4ISR	command, control, communications, computers, intelligence, surveillance, and reconnaissance
CAS	China Academy of Sciences
CCG	China Coast Guard
CCP	Chinese Communist Party
CG	guided-missile cruiser
CMC	Central Military Commission
CNSC	Central National Security Commission
COMAC	Commercial Aircraft Corporation of China
DDG	guided-missile destroyer
DoD	Department of Defense

DRAM	dynamic random-access memory
EEZ	exclusive economic zone
EW	electronic warfare
FFG	guided-missile frigate
FFL	corvette
FOCAC	Forum on China-Africa Cooperation
FYP	Five-Year Plan
GPS	Global Positioning System
HA/DR	humanitarian assistance/disaster relief
IADS	integrated air defense system
ICBM	intercontinental ballistic missile
ICT	information and communications technology
IO	information operations
IP	intellectual property
IRBM	intermediate-range ballistic missile
ISR	intelligence, surveillance, and reconnaissance
JLSF	Joint Logistic Support Force
LACM	land-attack cruise missile
LHA	amphibious assault ship
LOW	launch-on-warning
LPD	amphibious transport dock
MARV	maneuverable reentry vehicle
MCF	military-civil fusion
MIRV	multiple independently targetable reentry vehicle
MOOTW	military operations other than war
MPS	Ministry of Public Security
MRBM	medium-range ballistic missile
MSS	Ministry of State Security
NFU	No First Use
NDU	National Defense University
NORINCO	North Industries Corporation
NPC	National People's Congress
NWMA	non-war military activities
OBOR	One Belt, One Road
OTH	over-the-horizon
PAFMM	People's Armed Forces Maritime Militia
PAP	People's Armed Police
PKO	peacekeeping operations
PLA	People's Liberation Army
PLAA	PLA Army

PLAAF	PLA Air Force
PLAN	PLA Navy
PLANMC	PLA Navy Marine Corps
PLARF	PLA Rocket Force
PRC	People's Republic of China
R&D	research and development
RCEP	Regional Comprehensive Economic Partnership
RIMPAC	Rim of the Pacific
S&T	science and technology
SAM	surface-to-air missile
SLBM	submarine-launched ballistic missile
SLOC	sea line of communication
SLV	space launch vehicle
SOE	state-owned enterprise
SOF	special operations forces
SRBM	short-range ballistic missile
SS	diesel-powered attack submarine
SSBN	nuclear-powered ballistic missile submarine
SSF	Strategic Support Force
SSN	nuclear-powered attack submarine
SSP	air- independent-powered attack submarine
THAAD	terminal high-altitude area defense
TRA	Taiwan Relations Act
UAV	unmanned aerial vehicle
UGF	underground facility
USAFRICOM	U.S. Africa Command
USINDOPACOM	U.S. Indo-Pacific Command
USTR	U.S. Trade Representative
UN	United Nations
WTO	World Trade Organization
ZTE	Zhongxing Telecommunications Company Ltd.